

JVC

SERVICE MANUAL

STEREO VIDEO CASSETTE RECORDER

HR-S4700U



Hi-Fi
SVHS

SPECIFICATIONS

GENERAL

Power requirement : AC 120 V~, 60 Hz
Power consumption : 34 W
Temperature
Operating : 5°C to 40°C (41°F to 104°F)
Storage : -20°C to 60°C (-4°F to 140°F)
Humidity
Operating : 35% to 80%
Storage : 5% to 80%
Operating position : Horizontal only
Dimensions (WxHxD) : 435 x 102 x 373 mm
(17-3/16" x 4-1/16" x 14-11/16")
Weight : 6.4 kg (14.2 lbs)
Format : S-VHS/VHS NTSC standard with Hi-Fi audio
Tape width : 12.65 mm
Tape speed (SP) : 33.35 mm/sec (1-5/16 ips)
(EP) : 11.12 mm/sec (7/16 ips)
Maximum recording time (SP) : 160 min. with T-160 video cassette
(EP) : 480 min. with T-160 video cassette

VIDEO

Signal system : NTSC-type color signal and EIA monochrome signal, 525 lines/60 fields
Recording system : Rotary two-head helical scan system with slant double-azimuth combination video heads
Input : 0.5 to 2.0 Vp-p, 75 ohms, unbalanced
Output : 1.0 Vp-p, 75 ohms, unbalanced
Signal-to-noise ratio : 45 dB (Rohde & Schwarz noise meter) with PICTURE CONTROL set to OFF
Horizontal resolution : 240 lines (VHS)
400 lines (S-VHS) with PICTURE CONTROL set to OFF

AUDIO

Input : -8 dBs, more than 50 k-ohms, unbalanced
Output : -8 dBs, less than 1 k-ohm, unbalanced (100 k-ohms, load)

NORMAL AUDIO

Recording system : Longitudinal track
No. of channels : 1 normal audio channel
Frequency response : 70 Hz to 10,000 Hz

HI-FI AUDIO

Recording system : Deep-layer recording system conforming to stereo Hi-Fi VHS standard
No. of channels : 2 Hi-Fi audio channels
Frequency response : 20 Hz to 20,000 Hz
Dynamic range : More than 90 dB
Wow and flutter : Less than 0.005% WRMS

TUNER

Tuning system : Frequency synthesized tuner
Channel coverage (VHF) : Channels 2-13
(UHF) : Channels 14-69
(CATV) : 113 Channels
RF output : Channel 3 or 4 (switchable; preset to Channel 3 when shipped) 75 ohms, unbalanced

TIMER

Clock reference : Quartz-crystal
Program capacity : 1-year programmable timer/8-programs

ACCESSORIES

Provided accessories : RF cable (F-type),
Infrared remote control unit,
"AA" battery x 2
Audio cable,
Video cable,
S-Video cable (4-pin),
Mini-plug cable

E. & O.E. Specifications shown are for SP mode unless otherwise specified.
Design and specifications subject to change without notice.

NOTE: For a technical description, please refer to Technical Guide VTG82071 HR-S4700NTSC.

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the  symbol and shaded () parts are critical for safety.

Replace only with specified part numbers.

Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:

- 1) Wires covered with PVC tubing
- 2) Double insulated wires
- 3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:

- | | | |
|--------------------|--------------------------------------|------------|
| 1) Insulation Tape | 3) Spacers | 5) Barrier |
| 2) PVC tubing | 4) Insulation sheets for transistors | |

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

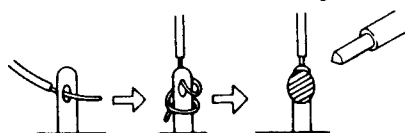


Fig. 1

7. Observe that wires do not contact heat producing parts (heat-sinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10–15 kg of force in any direction will not loosen it.

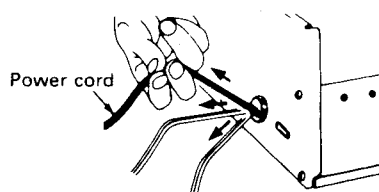


Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)

In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector

In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

1) **Connector part number:** E03830-001

2) **Required tool:** Connector crimping tool of the proper type which will not damage insulated parts.

3) **Replacement procedure**

(1) Remove the old connector by cutting the wires at a point close to the connector.

Important: Do not reuse a connector (discard it).

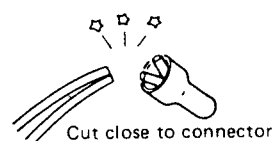


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

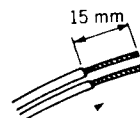


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

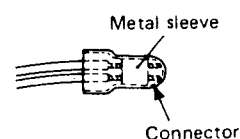


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

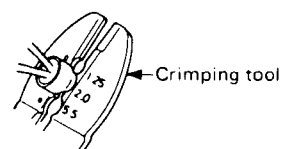


Fig. 6

(5) Check the four points noted in Fig. 7.

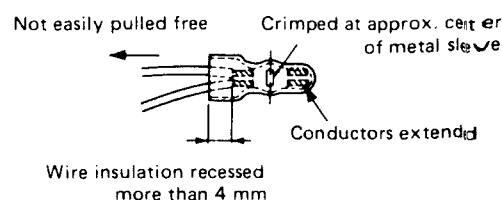


Fig. 7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

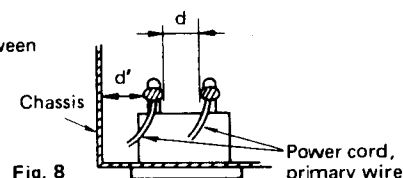
Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

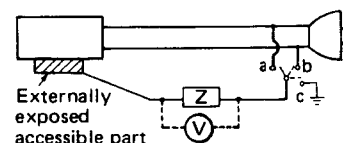


4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

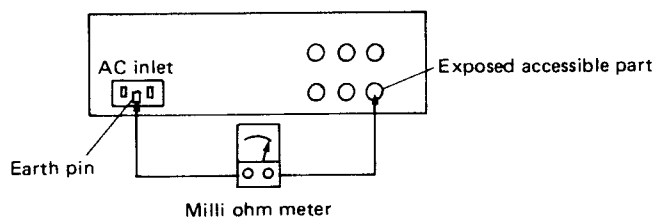


5. Grounding (Class I model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.



Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	$Z \leq 0.1 \text{ ohm}$
Europe & Australia	$Z \leq 0.5 \text{ ohm}$

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	$R \geq 1 \text{ M}\Omega / 500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3 \text{ mm}$
100 to 240 V			AC 1.5 kV 1 minute	$d, d' \geq 4 \text{ mm}$
110 to 130 V	USA & Canada	—	AC 900 V 1 minute	$d, d' \geq 3.2 \text{ mm}$
110 to 130 V 200 to 240 V	Europe & Australia	$R \geq 10 \text{ M}\Omega / 500 \text{ V DC}$	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	$d \geq 4 \text{ mm}$ $d' \geq 8 \text{ mm (Power cord)}$ $d' \geq 6 \text{ mm (Primary wire)}$

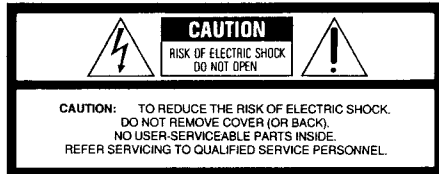
Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	$1 \text{ k}\Omega$	$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F}$ and $1.5 \text{ k}\Omega$	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	$2 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Antenna earth terminals
		$50 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

Safety Precautions



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

This video cassette recorder should be used with AC 120V~, 60 Hz only.

CAUTION:
To prevent electric shocks and fire hazards, do NOT use any other power source.



■ Cassettes marked "S-VHS" and "VHS" can be used with this video cassette recorder. However, S-VHS recordings are possible only with cassettes marked "S-VHS".

When you are not using the video recorder for a long period of time, it is recommended that you disconnect the power cord from the AC outlet.

CAUTION:
TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION:
Pour éviter les chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu'au fond.

NOTE:
The rating plate and the safety caution are on the side and rear of the unit.

CAUTION:
Changes or modifications not approved by JVC could void user's authority to operate the equipment.

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How To Use This Instruction Manual

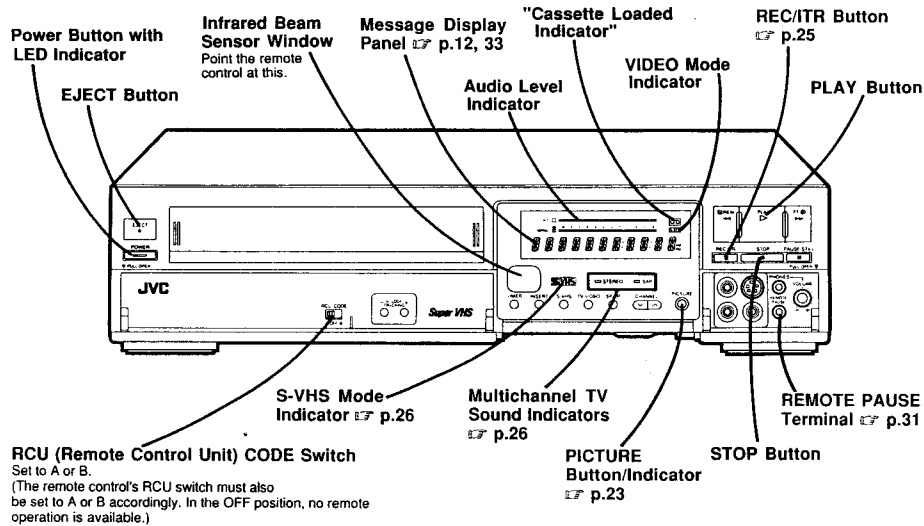
This instruction manual has been designed with both new and experienced users in mind. The first half offers detailed, step-by-step instructions for setting up your VCR, and on using its basic functions. The second half provides instructions on the many other functions available on your VCR. So just by following the instructions on the first 16 pages of this manual, you can master all of your VCR's basic functions, including timer-recording. Once you're sufficiently familiar with basic operation, or if you're already an experienced video user, you can move on to the more advanced functions introduced on the following pages. Also, towards the end of this instruction manual, there are sections offering supplemental information which you should find helpful in the course of operating your VCR.

Related features have all been clustered together for easy reference, and their categories (playback, recording, timer, etc.) are easily recognizable by the symbol appearing in the page header. If you ever need to refer to another page for instructions or information, you will be told so by a  mark pointing to the page number. Unless otherwise specified, operation buttons mentioned in the instructions refer to those located on the remote control, not those duplicated on the VCR.

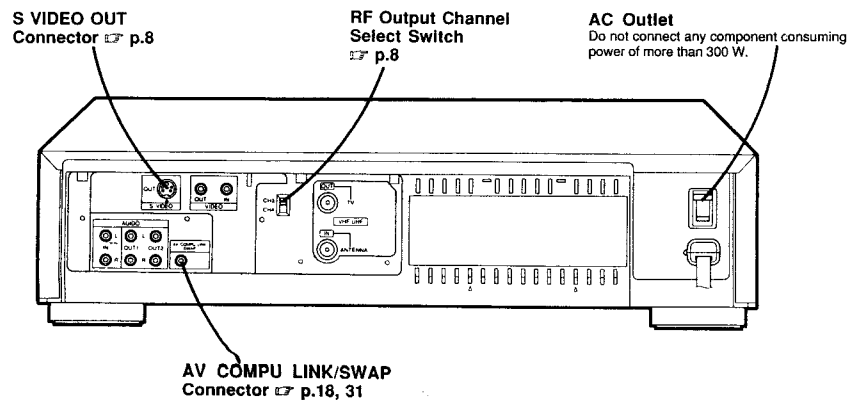
Remember, you must use your VCR correctly to fully enjoy it. Please use this manual effectively. It's the surest and quickest way to unlock the full potential of your new JVC VCR.

Controls, Indicators, And Connectors

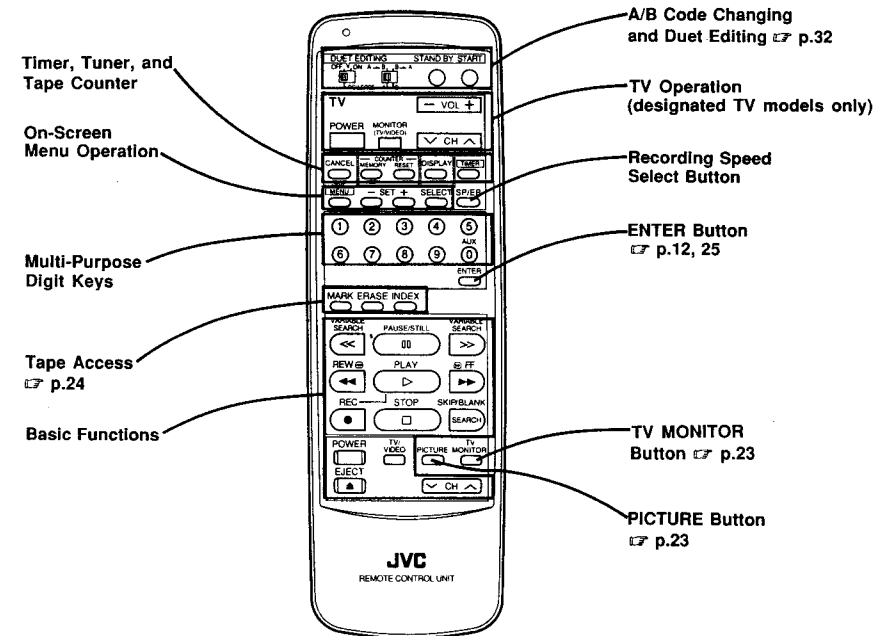
Front Panel



Back Panel

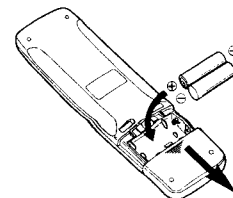


Wireless Remote Control



Installing Batteries

- 1 Slide the battery compartment cover in the direction of the arrow.
- 2 Insert 2 "AA"-size batteries (provided) in the correct directions.
- 3 Replace the cover.



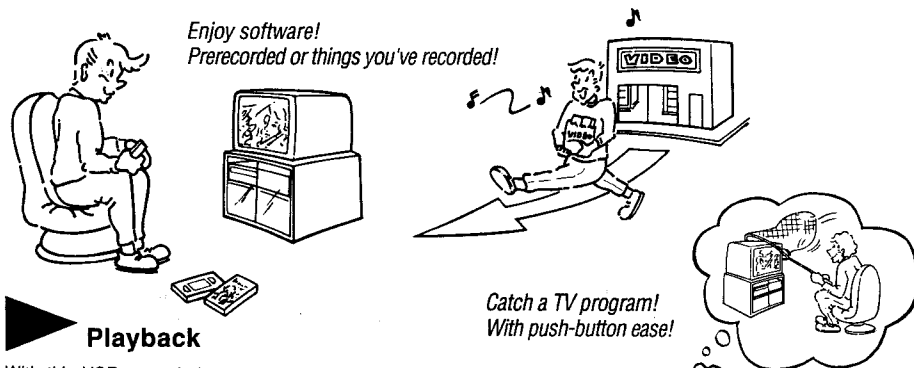
How To Use

The remote control can operate most of your VCR's functions, as well as basic functions of designated JVC TV sets.

- Point the remote control at the sensor window.
- The maximum operating distance of the remote control is about 8 m (26 ft).

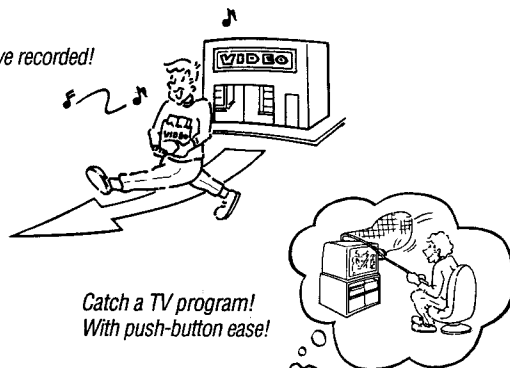
Getting To Know Your VCR

The 3 Basic Ways Of Using Your VCR



Playback

With this VCR properly hooked-up to your TV set, you'll be able to watch an enormous variety of video software. Enjoy the VHS tapes you already have, and treat yourself to the terrific picture quality of Super VHS tapes. And, thanks to this VCR's Hi-Fi capability, you'll also be able to fully enjoy the powerful Hi-Fi soundtracks available on most prerecorded VHS software.



Recording

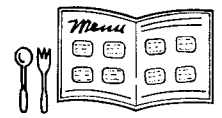
This VCR offers you a choice of recording in either VHS or S-VHS. Thanks to S-VHS's high resolution, you'll be able to record TV programs without any loss of the original picture quality. S-VHS is economical too, because you can record in the longer EP mode and still get excellent picture quality. And any time you need to record in VHS — no problem. Just insert a VHS cassette and you're ready to go.



Timer-Recording

By using the built-in timer, you can set your VCR to record TV programs for you while you're asleep, while you're away, or while you're doing something else. Then you can watch those programs later, whenever it's convenient, whenever you want. This is what's called "timeshifting", and now you can do it the JVC way.

Some Other Functions On Your VCR



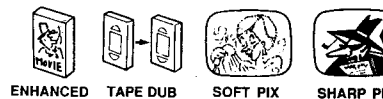
On-Screen Menu System

Do everything from VCR set up to timer-programming while watching bright, easy to see, easy to understand on-screen menus. The screen even turns green to let you know when a procedure has been completed.



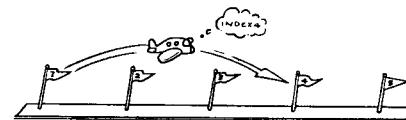
VCR "Message" Display Panel

The VCR "talks" to you from its message display panel. It's easy to understand what the VCR is doing at any time — a friendlier way to interact with your VCR.



Picture Control

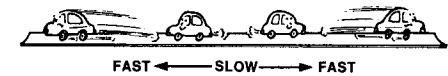
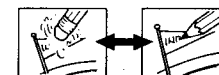
One-touch control over the type of video picture you want. Make it clearer, make it better for dubbing, make it softer, make it sharper — do it all with Picture Control.



Index Search

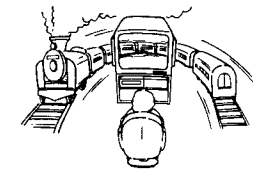
Zooms to the index code number you specify. Easy location of index-coded programs at the touch of a button.

With index mark/erase, you can add or delete index codes as you wish.



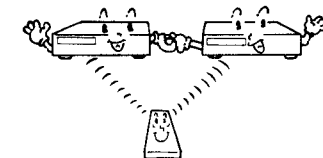
Variable-Speed Slow/Search

A variety of special-effects playback from slow motion to fast motion in either direction.



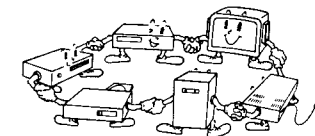
Hi-Fi Stereo Sound

Enjoy films with Hi-Fi stereo soundtracks just as you would in theaters. Use the built-in MTS (Multichannel TV Sound) decoder to record stereo programs in stereo, or to record SAP programs without losing the main audio.



Duet Editing

Synchronized editing control over two JVC VCRs using one remote control.



AV COMPU LINK

Build a totally integrated home entertainment system with JVC's AV COMPU LINK components. One-touch COMPU LINK video playback is possible — all components "co-operate" with each other. It's the "modern approach" to effortless AV entertainment.

Making The Right Connections

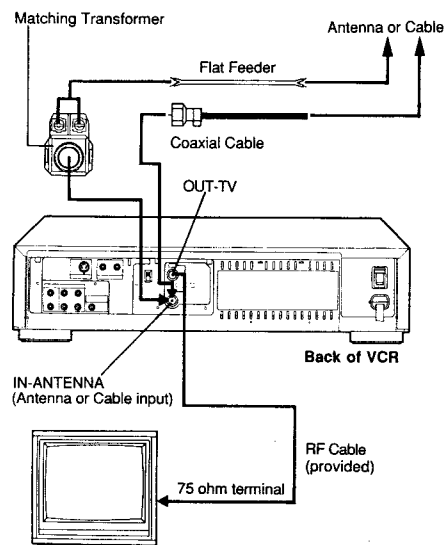
It's essential that your VCR be properly hooked up for proper results. Follow these steps carefully. THESE STEPS MUST BE COMPLETED BEFORE ANY VCR OPERATION CAN BE PERFORMED.

A VCR-TO-TV CONNECTION

RF CONNECTION

For standard TV sets:

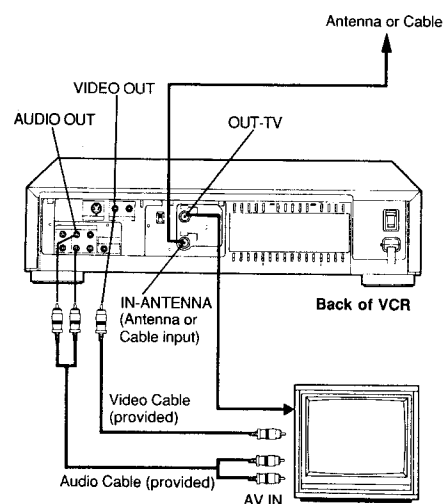
- 1 Disconnect the TV antenna from the TV.
- 2 Connect the TV antenna to the VCR.
- 3 Connect the VCR to the TV's antenna terminal using the provided RF Cable.



AV CONNECTION

For TV sets with AV input terminals:

- 1 Connect the antenna, VCR and TV as per "RF CONNECTION".
- 2 Connect the VCR to the TV's AV-IN terminals.



NOTES:

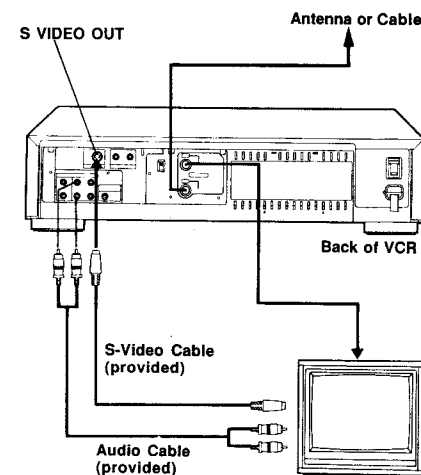
Either pair of AUDIO OUT (1 or 2) can be used to connect to the television. Use the other pair to connect to an audio amplifier.

See the separate "Basic Guide For VCR Connections" for more information and other possible connections. The VCR rear panel illustration in the "Basic Guide For VCR Connections" differs from your VCR. Terminals are labeled and positioned differently. The lower IN-ANTENNA terminal of your VCR corresponds to the upper ANT. IN terminal of the "Basic Guide", and the upper OUT-TV terminal of your VCR corresponds to the lower RF OUT terminal of the "Basic Guide".

S-VIDEO CONNECTION

For sets with S-VIDEO input terminal:

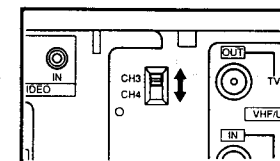
- 1 Connect the antenna, VCR and TV as per "RF CONNECTION".
- 2 Connect the VCR's S VIDEO OUT terminal to the TV's S VIDEO IN terminal.
- 3 Connect the VCR's AUDIO OUT terminals to the TV's AUDIO IN terminals.



NOTES:

- To make the most of Super VHS picture performance, we recommend you use the S-VIDEO connection.
- To operate the VCR with your TV using the S VIDEO connection, set your TV to the AV mode.

B SELECT VCR CHANNEL



With RF Connection

- Set this switch to either CH3 or CH4 (the channel not used for broadcasting in your area).
- The OUT-TV terminal sends picture and sound signals to your TV on channel 3 or 4. The sound signal is monaural.
 - To operate the VCR via RF connection, set the VCR to the VIDEO mode and your TV's channel to the one you set the VCR to in this step.
 - For ordinary TV viewing, set the VCR to the TV mode.

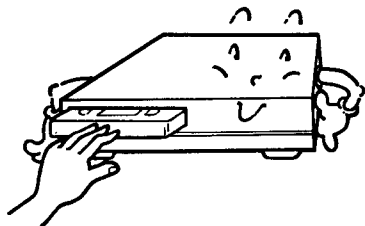
With AV or S-VIDEO Connection

- To operate the VCR via AV or S-VIDEO connection, set your TV to the AV mode.

Handling Videocassettes

A LOADING A CASSETTE

- 1 Insert a cassette with its label side facing you.
 - If the cassette is not loaded firmly it will be ejected.



B UNLOADING A CASSETTE

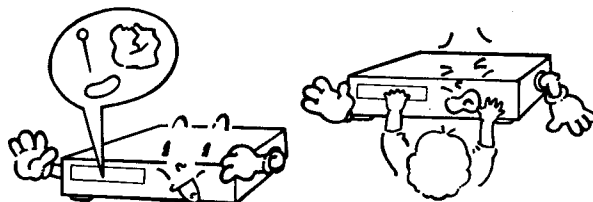
- 1 Press EJECT.
 - If the cassette will not eject, check to see if "TIMER" is displayed on the VCR's message panel. If it is, press the TIMER button to turn it off.

NOTES:

- Be sure to insert the cassette firmly into the slot; otherwise it will be automatically ejected.
- The automatic loading mechanism will operate only when the cassette is inserted correctly.

WARNING

- Do not insert fingers or foreign objects into the cassette loading slot since this could lead to injury or damage to the mechanism. Be especially careful with children.
- Do not try to pull out a cassette once automatic loading has started.



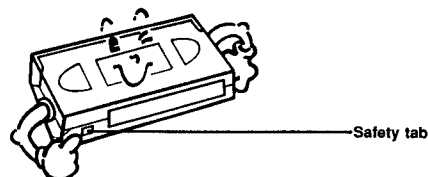
Usable Cassettes And Their Recording Time

Type of Cassette		Recording/Playback Time	
		SP (Standard Play)	EP (Extended Play)
VHS	T-30	30 minutes	1 hour, 30 minutes
	T-60	1 hour	3 hours
	T-90	1 hour, 30 minutes	4 hours, 30 minutes
	T-120	2 hours	6 hours
	T-160	2 hours, 40 minutes	8 hours
S-VHS	ST-30	30 minutes	1 hour, 30 minutes
	ST-60	60 minutes	3 hours
	ST-120	2 hours	6 hours

Both regular VHS and S-VHS cassettes can be used with your VCR. However, to make S-VHS recordings, you must use S-VHS cassettes.

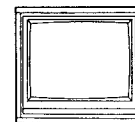
Accidental Erasure Prevention

To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.

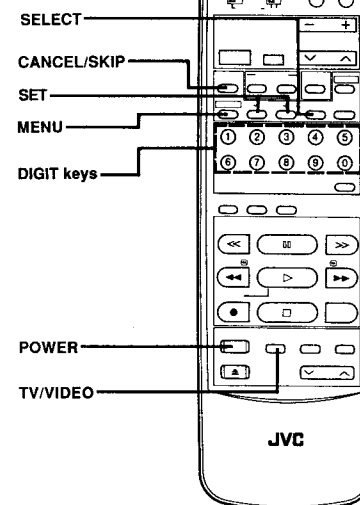


Setting The Clock

Since your VCR bases all of its timer recording start and stop "decisions" on the time kept by its built-in clock, accurate setting of this clock is crucial for proper timer-recording results.



POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)

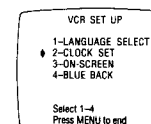
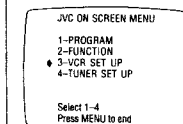


A TURN ON THE VCR

- 1 Press POWER.
- 2 Press TV/VIDEO to select the VIDEO mode.
 - The VCR's VIDEO indicator should be lit.

B ACCESS THE ON-SCREEN MENU

- 1 Press MENU.
- 2 Press the 3 key. (VCR Set Up)
- 3 Press the 2 key. (Clock Set)



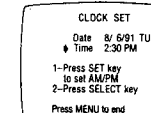
C INPUT THE MONTH/DAY/YEAR

- 1 Press the appropriate digit keys.
 - Example: For August 6, 1991, press 0 8 0 6 9 1. Always enter "0" before single-digit entries.
- 2 Press SELECT.
 - The day of the week will automatically appear.



D INPUT THE TIME

- 1 Press the appropriate digit keys.
 - Example: For 2:30 press 0 2 3 0.
- 2 Press SET to choose AM or PM.



E START THE CLOCK

- 10 Press SELECT.
 - Screen turns green to let you know the clock has started.

F RETURN TO THE TV SCREEN

- 11 Press MENU.

TO MAKE CORRECTIONS

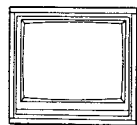
Press CANCEL/SKIP (repeatedly if needed) to move back to an item you want to change.

ATTENTION:

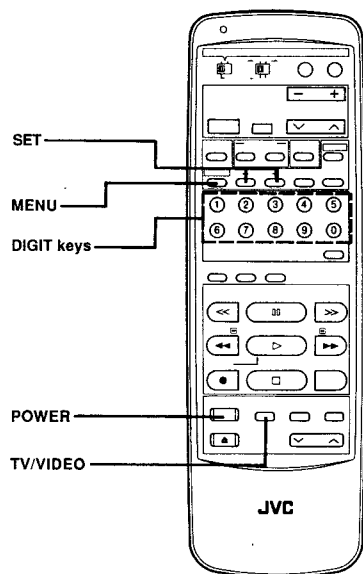
On-screen menus and messages can be displayed in French or Spanish. For instructions on changing the on-screen language see p.17.

Setting The Tuner

The Auto Set feature introduced here automatically assigns receivable channels in your area to the CHANNEL UP/DOWN button and skips the others so you won't have to go through any "blank" channels to get to the one you want.



POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)

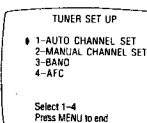
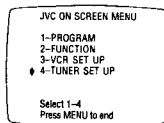


A TURN ON THE VCR

- 1 Press POWER.
- 2 Press TV/VIDEO to select the VIDEO mode.
- The VCR's VIDEO indicator should be lit.

B ACCESS THE ON-SCREEN MENU

- 3 Press MENU.
- 4 Press the 4 key. (Tuner Set Up)
- 5 Press the 1 key. (Auto Channel Set)



C START AUTO SET

- 6 Press SET.
- Screen turns green and "Scanning..." is displayed while auto set is in progress.
- After completion of auto set, the total number of set channels is displayed.



D RETURN TO THE TV SCREEN

- 7 Press MENU three times.

TO ADD/DELETE CHANNELS MANUALLY

☞ p.19, 20.

Mode Displays — What They Mean

Message Display Panel

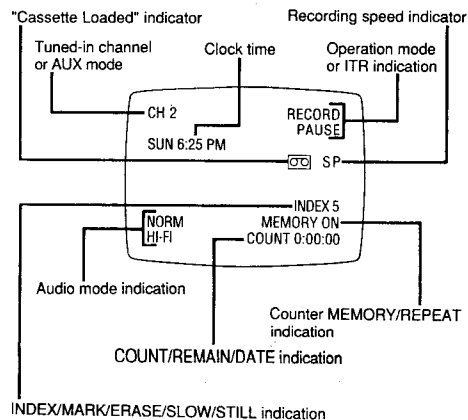
The operation mode is displayed on the VCR's display panel automatically. Displayed messages are designed to be self-explanatory. Here are some of the more common displays:

DISPLAY	MODE	DISPLAY	MODE
PLAY	Play	PAUSE 10	Record Pause
STILL	Still	FWD SEARCH	Forward Search
FF	Fast-Forward	REV SEARCH	Reverse Search
REW	Rewind	FWD SLOW	Forward Slow
REC SP 10	Record	REV SLOW	Reverse Slow
TIMER REC	Timer-Recording	EJECT	Eject

For a more comprehensive list and FDP Dimmer instructions ☞ p.18, 33.

On-Screen Display

Operation modes are displayed on the TV screen unless the "On-Screen" function is set to "OFF". ☞ p.17.



AUTOMATIC INDICATION

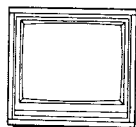
- **Channel**
When the channel is changed, the new channel is displayed on the screen for 5 seconds.
- **Operation mode**
When the operation mode is changed, the new mode is displayed — RECORD (5 sec.), PLAY (5 sec.), FF/REW (5 sec., when engaged from Stop mode), and RECORD PAUSE (for as long as Pause is engaged).
- **"Cassette Loaded" mark**
When a cassette is loaded the mark is displayed for 5 seconds. It blinks when EJECT is pushed.

MANUAL RECALL

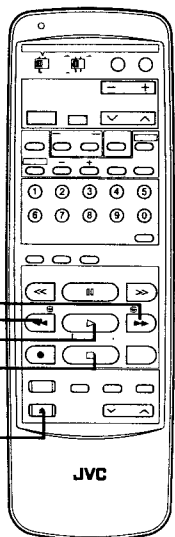
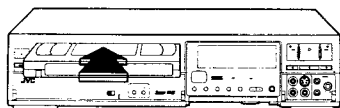
- 1 Press ENTER.
- This displays the mode and time on the screen for 5 seconds.
- 2 Press ENTER again to clear the display.

▶ Playback

The easiest, most basic operation possible with your VCR is tape playback. Already-recorded signals on a video tape are read by your VCR and displayed on your TV just like a TV program.



POWER ON:
SELECT CHANNEL
3 OR 4 (OR AV MODE)



A LOAD A CASSETTE

- 1 Insert a cassette.
 - The VCR power will come on automatically.
 - If the safety tab on the cassette is removed, playback will start automatically.

B TO START PLAYBACK

- 2 Press PLAY.
 - The VIDEO mode is automatically set and the VIDEO indicator will light.

C TO STOP PLAYBACK

- 3 Press STOP.

D TO REWIND OR FAST-FORWARD

- 4 Press REW to rewind the tape.
- 5 Press FF to fast-forward the tape.
 - Press STOP to stop rewind or fast-forward.

E TO EJECT THE TAPE

- 6 Press EJECT.

High-Speed Forward And Reverse Search

During Playback:

- Press FF for high-speed forward search.
- Press REW for high-speed reverse search.
- Press PLAY to resume normal playback.
- For short searches, keep FF or REW pressed for more than 2 seconds. When released, normal playback will continue.

Still Playback And Frame Advance

During Playback:

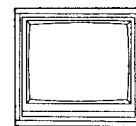
- 1 Press PAUSE/STILL to view a still picture.
- 2 Press again to advance the picture frame by frame.
- 3 Press PLAY to resume normal playback.

NOTES:

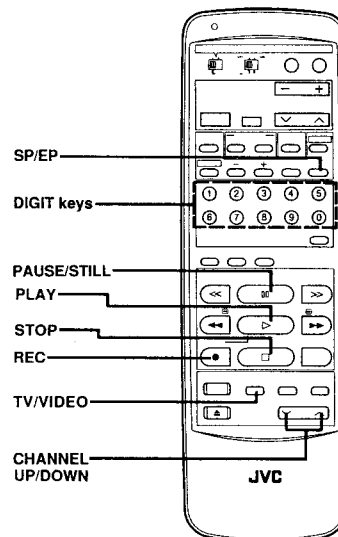
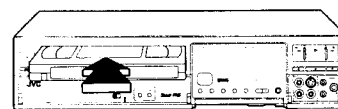
- The S-VHS mode is automatically selected for S-VHS recordings. The S-VHS indicator will light.
- Tapes with monaural soundtracks (normal audio) are automatically played back in the NORM mode. When playing back tapes with Hi-Fi stereo soundtracks or SAP-recorded tapes, see p.21.
- The VCR automatically stops when still continues for more than 5 minutes.
- If the still picture is unstable (vertical jitter) use the VCR's V. LOCK buttons to correct the picture.
- During search playback, some noise bars will appear.
- If noise bars appear during playback, correct using manual tracking. see p.22.
- There is no audio during search, still, or frame-by-frame playback.
- Picture loss will occur when search, still, or frame-by-frame is attempted with LP-mode recorded tapes. Press PLAY to return to normal playback and restore the picture.
- The VCR automatically rewinds when the end of the tape is reached during play, fast-forward or forward search.

● Recording

TV signals being received by the VCR's built-in tuner can be recorded onto a video tape. This is realtime video recording.



POWER ON:
SELECT CHANNEL
3 OR 4 (OR AV MODE)



A LOAD A CASSETTE

- 1 Insert a cassette with the record tab in place.
 - The VCR power will come on automatically. Be sure that the VIDEO indicator is lit; if not, press TV/VIDEO so that it lights.

B CHOOSE A PROGRAM

- 2 Press CHANNEL UP/DOWN or the digit keys to select the channel you wish to record.

C SELECT THE TAPE SPEED

- 3 Press SP/EP.

D TO START RECORDING

- 4 Press REC and PLAY simultaneously.

E TO PAUSE RECORDING

- 5 Press PAUSE/STILL.
- 6 Press PLAY to resume recording.

F TO STOP RECORDING

- 7 Press STOP.

To Watch Another Program While Recording

During Record:

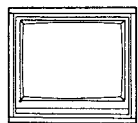
- 1 Press TV/VIDEO. The VCR's VIDEO indicator and the TV broadcast being recorded will disappear.
- 2 Use the channel controls on the TV to select the other channel you wish to view.
 - The program selected with the TV channel controls will appear on the TV screen while the one selected with the VCR channel controls will be recorded on the tape.

NOTES:

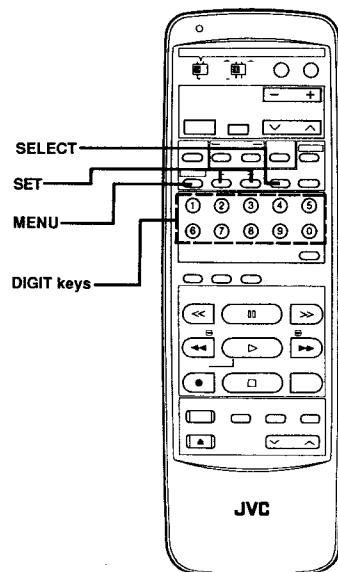
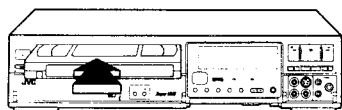
- After pause, when recording is resumed, a few frames recorded before the pause may be overlapped by the new recording. This is meant to reduce picture distortion and is not a malfunction.
- The VCR automatically stops when record-pause continues for more than 5 minutes.
- If the REC button does not work, check to see if the cassette's safety tab has been removed.
- The channel cannot be changed while recording is in progress. To change the channel, press PAUSE, then change the channel.
- The VCR automatically rewinds when the end of the tape is reached during recording.
- For S-VHS/VHS recording and SAP recording, see p.26

Timer-Recording

The on-screen timer programming method introduced here is the most comprehensive and versatile of those possible with your VCR. You can program up to 8 recordings over a 1 year period. **TIMER PROGRAMMING IS NOT POSSIBLE UNLESS THE CLOCK HAS BEEN SET.**



**POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)**



A LOAD A CASSETTE

- 1 Insert a cassette with the record tab in place.
 - The VCR power will come on automatically. Be sure that the VIDEO indicator is lit; if not, press TV/VIDEO so that it lights.

B ACCESS THE ON-SCREEN MENU

- 2 Press MENU.
- 3 Press the 1 key. (Program)
- 4 Press the 2 key. (Single Program)

JVC ON SCREEN MENU

- 1-PROGRAM
- 2-FUNCTION
- 3-VCR SET UP
- 4-TUNER SET UP

Select 1-4
Press MENU to end

PROGRAM

- 1-TODAY'S PROGRAM
- 2-SINGLE PROGRAM
- 3-WEEKLY PROGRAM
- 4-DAILY PROGRAM (M-F)
- 5-PROGRAM REVIEW

Select 1-5
Press MENU to end

C INPUT THE PROGRAM'S DATE

- 5 Press the appropriate digit keys.
 - Example: For August 26, press 0 8 2 6.
 - Always enter "0" before single-digit entries.
- 6 Press SELECT.
- The day of the week will automatically appear.

SINGLE PROGRAM

Date 8/26
Start ---
Stop ---
Channel --- Speed ---

1-Press DIGIT keys to set month/day
2-Press SELECT key
Press MENU to end

D INPUT THE REC START TIME

- 7 Press the appropriate digit keys.
 - Example: For 8:00, press 0 8 0 0.
- 8 Press SET to choose AM or PM.
- 9 Press SELECT.

SINGLE PROGRAM

Date 8/26 MON
Start 8:00 PM
Stop ---
Channel --- Speed ---

1-Press SET key to set AM/PM
2-Press SELECT key
Press MENU to end

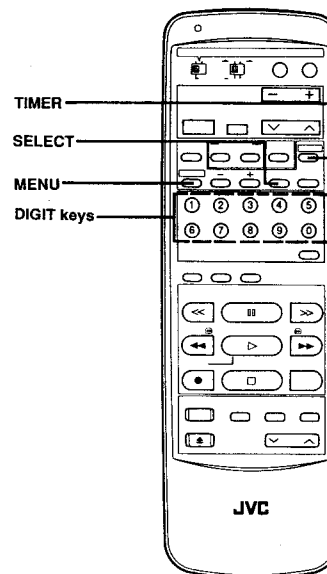
E INPUT THE REC STOP TIME

- 10 Press the appropriate digit keys.
 - Example: For 10:00, press 1 0 0 0.
- 11 Press SET to choose AM or PM.
- 12 Press SELECT.

SINGLE PROGRAM

Date 8/26 MON
Start 8:00 PM
Stop 10:00 PM
Channel --- Speed ---

1-Press SET key to set AM/PM
2-Press SELECT key
Press MENU to end



F INPUT THE CHANNEL NUMBER

- 13 Press the appropriate digit keys.
 - Example: For channel 5, press 5.
- 14 Press SELECT.

SINGLE PROGRAM
Date 8/26 MON
Start 8:00 PM
Stop 10:00 PM
Channel 5 Speed ---

1-Press DIGIT keys to set channel number
2-Press SELECT key
Press MENU to end

G SELECT THE TAPE SPEED

- 15 Press the 1 key for SP, 2 for EP.
- 16 Press SELECT.
- Screen turns green to let you know that programming is completed.

SINGLE PROGRAM

Date 8/26 MON
Start 8:00 PM
Stop 10:00 PM
Channel 5 Speed SP

1-Press DIGIT keys to select speed,
1 for SP/2 for EP
2-Press SELECT key
Press MENU to end

H RETURN TO THE TV SCREEN

- 17 Press MENU three times.

I SET TO TIMER MODE

- 18 Press TIMER.
 - The VCR will enter the timer mode, power will go off, and "TIMER" will appear on the display panel.

TIMER

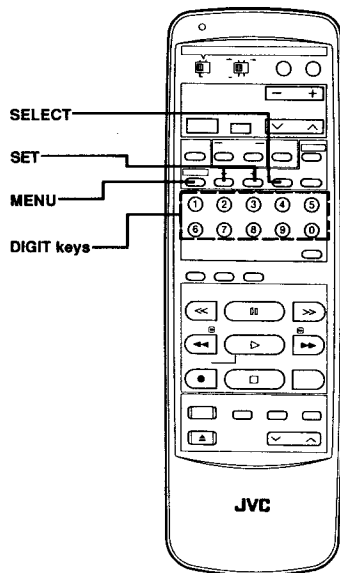
- Press TIMER again to release the timer mode.

For other timer programming methods see p.27.
Any questions? see p.28, 29.

NOTE:

- To timer-record cable channels received through the Converter Box, input the Converter Box's output channel (e.g. 3) in step 13. Select the channel you wish to record at the Converter Box and keep the Converter Box set to ON.

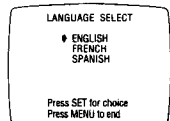
VCR On-Screen VCR Set Up



Language Select

Although the pre-set on-screen language is English, you can set the VCR to display on-screen menus and messages in French or Spanish.

- 1 Press MENU.
- 2 Press the 3 key. (VCR Set Up)
- 3 Press the 1 key. (Language Select)
- 4 Press SET to choose the language you want.
- 5 Press MENU to end.



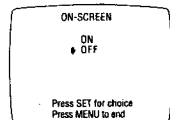
Clock Set

Always re-set the clock after a power outage, or whenever your time zone changes to or from Daylight Saving Time. For instructions see p.10.

On-Screen (On/Off)

You can choose whether or not to display VCR mode indications on the TV screen. Pre-set to "ON", on-screen messages can be turned "OFF".

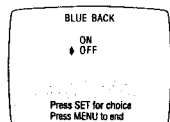
- 1 Press MENU.
- 2 Press the 3 key. (VCR Set Up)
- 3 Press the 3 key. (On-Screen)
- 4 Press SET to choose ON or OFF.
- 5 Press MENU to end.



Blue Back (On/Off)

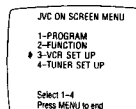
Your VCR is set to display the JVC logo with blue background on your TV screen whenever a broadcast signal is not received or is very weak. You can cancel this function if you wish to receive extremely weak signals.

- 1 Press MENU.
- 2 Press the 3 key. (VCR Set Up)
- 3 Press the 4 key. (Blue Back)
- 4 Press SET to choose ON or OFF.
- 5 Press MENU to end.

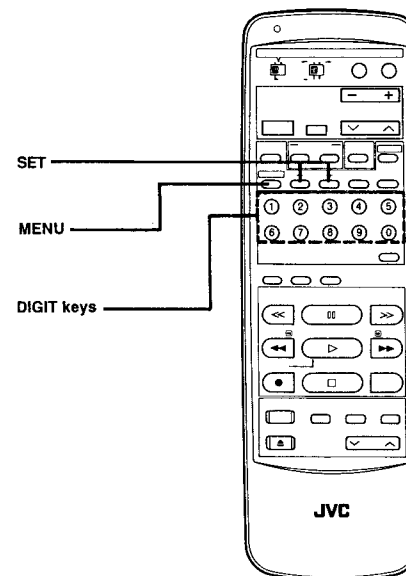


NOTES:

On-Screen Menu selections can be chosen by pressing the corresponding digit key, or by pressing SET to move the cursor arrow to the correct position and then pressing SELECT.



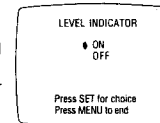
FUNCTION On-Screen Function Set Up



Audio Level Indicator On/Off

You can choose whether or not to display the audio level indicator on the display panel. Pre-set to "ON", the indicator can be turned "OFF".

- 1 Press MENU.
- 2 Press the 2 key. (Function)
- 3 Press the 6 key. (Level Indicator)
- 4 Press SET to choose ON or OFF.
- 5 Press MENU to end.

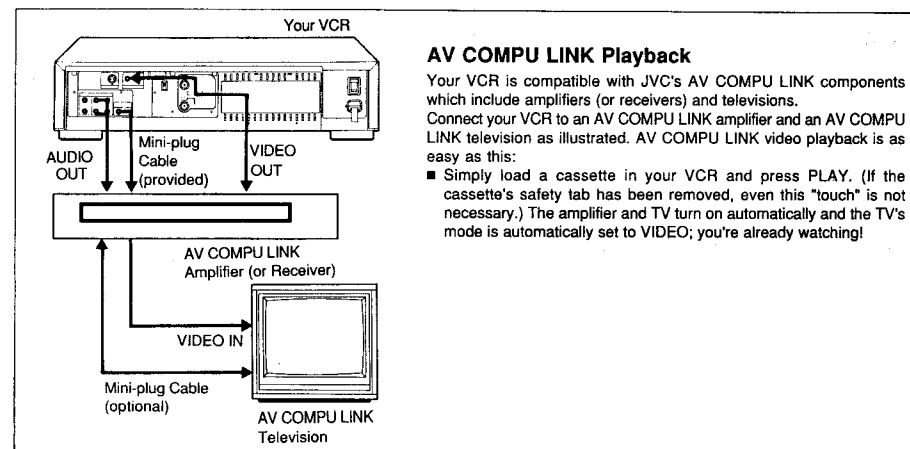
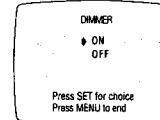


Dimmer

This function lets you make the VCR's display panel less bright.

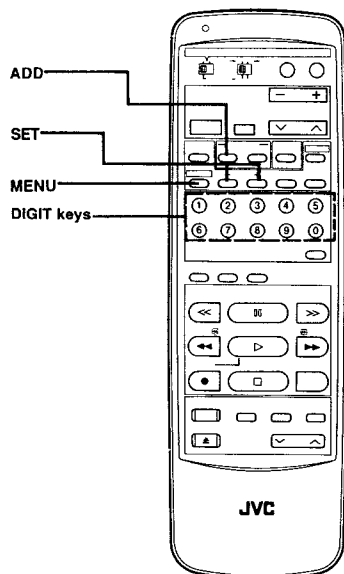
- 1 Press MENU.
- 2 Press the 2 key. (Function)
- 3 Press the 3 key. (Dimmer)
- 4 Press SET to choose ON.
- 5 Press MENU to end.

■ Reset Dimmer to OFF when you wish to release the dimmer function.





On-Screen Tuner Set Up



Auto Channel Set

Since receivable channels differ by locale, it will be necessary to re-set your VCR's channels when you move to another location. Auto Channel Set is the easiest way to do this. For instructions see p.11.

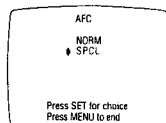
Manual Channel Set

After Auto Channel Setting, you may wish to modify your VCR's receivable channels (add weak channels that were skipped, delete channels you don't want to receive).

TO ADD A WEAK CHANNEL

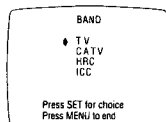
A CHANGE AFC (AUTOMATIC FREQUENCY CONTROL)

- 1 Press MENU.
- 2 Press the 4 key. (Tuner Set Up)
- 3 Press the 4 key. (AFC)
- 4 Press SET to choose SPCL.
- 5 Press MENU.



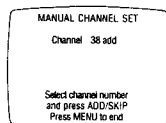
B SELECT THE TV BAND

- 6 Press the 3 key. (Band)
- 7 Press SET to choose TV.
- 8 Press MENU.



C ADD THE CHANNEL

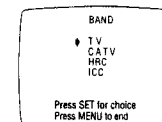
- 9 Press the 2 key. (Manual Channel Set)
- 10 Press the appropriate digit keys to input the channel number.
 - Example: For channel 38, press 3 8.
- 11 Press ADD.
- 12 Press MENU to end.



TO DELETE AN UNWANTED CHANNEL

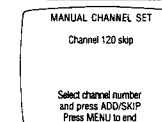
A SELECT THE BAND

- 1 Press MENU.
- 2 Press the 4 key. (Tuner Set Up)
- 3 Press the 3 key. (Band)
- 4 Press SET to choose the appropriate band.
- 5 Press MENU.



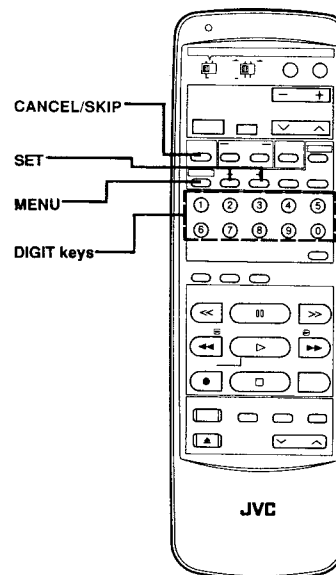
B SKIP THE CHANNEL

- 6 Press the 2 key. (Manual Channel Set)
- 7 Press the appropriate digit keys to input the channel number.
- 8 Press CANCEL/SKIP.
 - Display should change from "add" to "skip".
- 9 Press MENU to end.



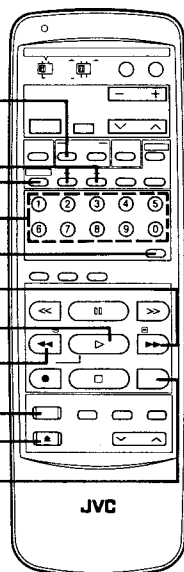
NOTES:

- The BAND select feature has 4 settings (TV, CATV, HRC, and ICC). Set to TV if your antenna provides only UHF and VHF channels. Set to CATV if your antenna system is a cable TV line with or without a cable converter/decoder box. Set to HRC or ICC if this matches your particular cable system; check with your cable supplier to determine your type of system.



▶ For Playback

COUNTER
MEMORY
SET
MENU
DIGIT keys
ENTER
FF
PLAY
REW
POWER
EJECT
SKIP/BLANK
SEARCH



Soundtrack Selection

Your VCR is capable of recording two soundtracks (Hi-Fi and NORMAL) simultaneously, and playing back the selected soundtrack or two together.

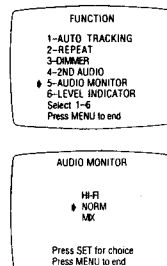
During Playback or Stop:

- 1 Press MENU.
- 2 Press the 2 key. (Function)
- 3 Press the 5 key. (Audio Monitor)
- 4 Press SET to choose HI-FI, NORM, or MIX.
 - HI-FI to listen to the Hi-Fi soundtrack.
 - NORM to listen to the normal soundtrack (such as SAP). *See* p.26
 - MIX to listen to both soundtracks combined. Select this setting when playing back edited tapes with insert edits or dubbed audio made on an appropriately equipped VCR.

- 5 Press MENU to end.

NOTES:

- You do not have to set to NORM when playing back tapes with normal soundtrack only.
- When "MIX" is selected, both "HI-FI" and "NORM" appear on the TV screen when the ENTER button is pressed.



Skip Search

Your VCR offers a simple way of skipping over unwanted sections of recorded TV programs.

During Playback:

- 1 Press SKIP/BLANK SEARCH from 1 to 4 times. This fast-motions through 30-sec. to 2-min. of tape.
 - Playback resumes automatically.
 - Press PLAY to cancel a Skip Search midway.

Memory Play

For automatic start of playback after a tape is rewind:

- 1 Press REW.
- 2 Press PLAY within 2 seconds.

For automatic start of playback beginning at counter position "0:00:00":

- 1 Press COUNTER MEMORY.
- 2 Press REW (or FF).
- 3 Press PLAY within 2 seconds.

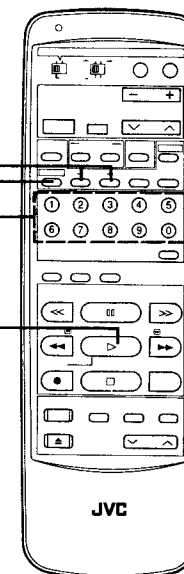
For automatic tape eject after tape is rewind:

- 1 Press REW.
- 2 Press EJECT within 2 seconds.

For automatic power off after tape is rewind:

- 1 Press REW.
- 2 Press POWER within 2 seconds.

SET
MENU
DIGIT keys
PLAY

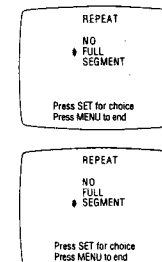


Repeat Playback

Your VCR can automatically play back the whole tape or an index-marked portion 5 times repeatedly.

During Stop:

- 1 Press MENU.
- 2 Press the 2 key. (Function)
- 3 Press the 2 key. (Repeat)
- 4 Press SET to choose NO, FULL, or SEGMENT repeat.
- 5 Press MENU to end.
- 6 Press PLAY. Repeated playback will start. After playback 5 times consecutively, playback will stop.
 - Be sure to reset Repeat to NO before pressing PLAY again because this will re-start repeat playback.



Manual Tracking

Your VCR is equipped with automatic tracking control. If you wish to adjust tracking manually, you can override this function.

During Playback or Stop:

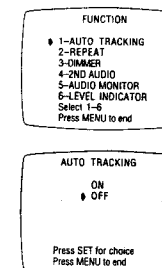
- 1 Press MENU.
- 2 Press the 2 key. (Function)
- 3 Press the 1 key. (Auto Tracking)
- 4 Press SET to choose OFF.
- 5 Press MENU to end.
- 6 Press SET (- or +) to adjust tracking when required during playback.
 - You can also use the VCR's TRACKING buttons.
 - Reset Auto Tracking to ON when you wish to re-engage automatic tracking.

During Slow:

- 1 Press SET (- or +) to adjust tracking.
 - You can also use the VCR's TRACKING buttons.

During Still:

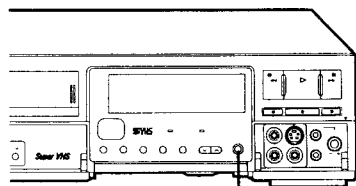
- 1 Press PAUSE/STILL a few more times to remove the noise bars from the screen.
 - Since automatic tracking is not effective during slow motion or still playback, there is no need to set Auto Tracking to OFF.



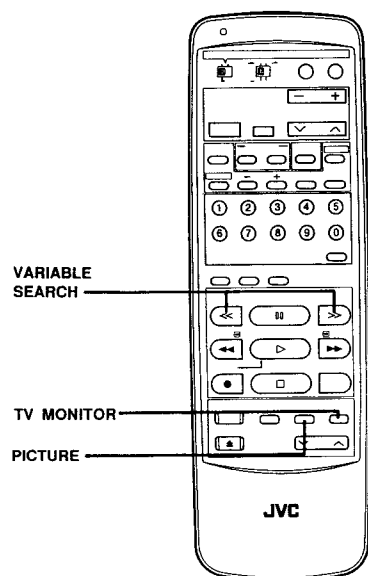
NOTES:

- The settings for all on-screen accessed functions (Auto Tracking, Repeat, Dimmer) remain unchanged unless deliberately changed by the user; settings do not reset automatically when VCR power is turned off and turned on again.

► For Playback (cont'd)



PICTURE
button and indicator



NOTES:

- If noise bars appear during slow motion, correct using manual tracking. *☞* p.22.
- During variable-speed search, some noise bars will appear.

Variable-Speed Search And Slow Motion

You can view pictures in slow to fast motion in either direction. The VARIABLE SEARCH buttons let you control the speed and the direction.

During Playback or Still:

- 1 Press either VARIABLE SEARCH button. Tape will move in the corresponding direction.
 - The more times the button is pressed, the faster the playback picture will move.
 - To decrease speed, press the button for the opposite direction.
 - Press PLAY to resume normal playback.

Picture Control

Your VCR has a built-in video processor that lets you choose the type of playback picture that's best for any given application. The PICTURE control button is on both the VCR and remote. The VCR's PICTURE button is illuminated when this function is activated.

During Playback:

- 1 Press PICTURE as many times as required to reach the desired setting.

VCR Display	When To Use
ENHANCED	When viewing tapes with noise due to repeated playback, such as rental videos.
TAPE DUB	When editing to another VCR.
SOFT PIX	When you want a soft picture.
SHARP PIX	When you want a sharp picture.
OFF	When no modification is required.

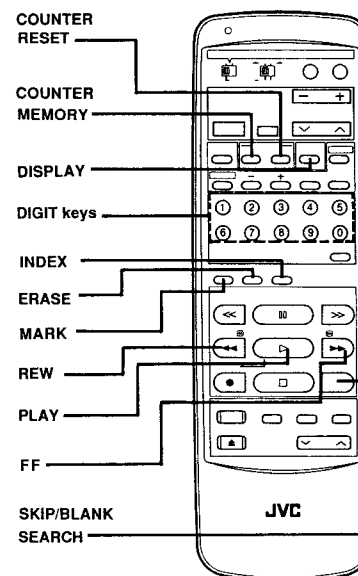
TV Monitor

During video tape playback, you can view the TV program being received by the VCR's tuner without having to stop the tape.

During Playback:

- 1 Press TV MONITOR.
 - The TV program presently being received will appear on the TV screen.
- 2 Press TV MONITOR again to return to video tape playback.
 - If you press TV MONITOR after engaging Skip Search, Index Search, or Blank Search, the TV screen will show the received TV program during the search, and then switch to tape playback when the search point is reached.

◀▶▶▶ For Tape Access



Index Search

This function gives you quick access to any one of 9 index codes in either direction. Your VCR automatically marks index codes at the beginning of each recording. You can manually mark and erase index codes as well.

- 1 Press INDEX. "INDEX 1" will be displayed.
 - If you wish to access index codes 2 through 9, press INDEX repeatedly until the correct index number is displayed.
- 2 Press FF or REW. Index Search will start in the corresponding direction.

Manual Index Mark/Erase

TO MARK

During Playback or Record:

- 1 Press MARK. The VCR will mark an index code at that location.

TO MAKE CORRECTIONS

During Playback or Still:

- 1 Press ERASE. The VCR will fast-forward to the nearest index code and delete it.

Blank Search

This function lets you quickly locate the blank portion of a partially recorded tape.

During Stop:

- 1 Press SKIP/BLANK SEARCH.
 - The VCR automatically fast-forwards or rewinds to the end of the recorded portion of tape, and stops.
 - The tape's remaining time is automatically displayed. Press DISPLAY to return to the realtime counter display.

Counter Memory

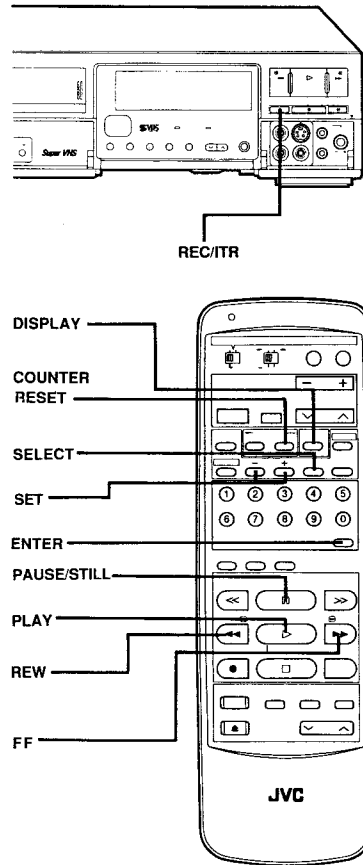
During Play or Stop:

- 1 Press DISPLAY until a counter reading appears.
- 2 Press COUNTER RESET at a point you wish to locate later.
 - The counter will read "0:00:00".
- 3 Press COUNTER MEMORY.
- 4 Press REW (or FF) when you wish to return to that point.
 - The tape will rewind (or fast forward) and stop at about "0:00:00" automatically.

NOTES:

- Index codes cannot be marked nor erased if the cassette's safety tab is removed. *☞* p.9.
- Press PLAY or STOP to cancel Index Search or Blank Search before completion.
- If the end of the tape is reached during Index Search or Blank Search, the mode is cancelled and the tape is rewound to the beginning.
- When a fully recorded tape is used for re-recording new material, Blank Search can be used to detect the end of the new material.

For Recording



NOTES:

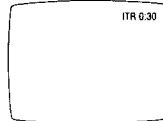
- The Remaining Tape Time is calculated based on the tape speed (SP or EP) being used. The indicated remaining time is only approximate.

Instant Timer Recording (Off Timer)

You can start a recording and then set the VCR to shut off automatically after a set duration.

During Record:

- Press the REC/ITR button on the VCR. A "0:30" indication appears, advising that power will switch off after 30 minutes.
- Press REC/ITR again to delay the off-time by 30-minute increments (up to 9 hours).
 - For a more precise setting, use the remote control's SELECT/SET buttons to set the exact time required (possible up to 9 hours and 59 minutes).



Retake

You can cut out unwanted parts of a TV program while you're recording it.

During Record:

- Press PAUSE/STILL.
- Press FF or REW for normal-speed search in the corresponding direction.
 - Release to return to Record-Pause mode.
- Press PLAY when you wish to resume recording.

Remaining Tape Time Indication

When you need to know the tape's remaining time.

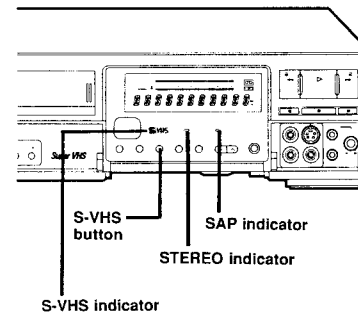
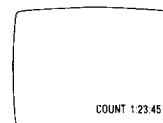
- Press DISPLAY until "REMAIN" appears. Approximate remaining time appears on the TV screen and VCR display panel.
 - Press again to display the date.
 - Press again for the realtime counter reading.
- Press ENTER to clear the screen.



Elapsed Recording Time Indication

When you need to know the exact time of a recording.

- Press DISPLAY until "COUNT" appears.
- Press COUNTER RESET before starting recording or playback.
 - The counter will be reset to "0:00:00" and show the exact elapsed time as the tape runs.
- Press ENTER to clear the counter reading from the screen.



S-VHS And VHS

Your VCR can record in either S-VHS or VHS.

- To record in S-VHS, insert a cassette marked "S-VHS". The S-VHS indicator will light and the S-VHS recording mode is automatically selected.
- To record in VHS, insert a cassette marked "VHS". The VHS recording mode is automatically selected.
- You can also record in VHS on S-VHS cassettes. For this purpose, after inserting an S-VHS cassette, press the S-VHS button. The S-VHS indicator will go out.

Stereo And SAP (Second Audio Program)

Your VCR is equipped with an MTS decoder for reception of Multichannel TV Sound broadcasts.

- When a stereo program is being received, the STEREO indicator lights.
- When an SAP program (such as a bilingual broadcast) is being received, the SAP indicator lights.
- When a stereo program is accompanied by SAP audio, both indicators light.

To Record Stereo Programs

Stereo programs are automatically recorded in stereo on the Hi-Fi audio track. No special operation is required. Simply follow the basic recording procedure.

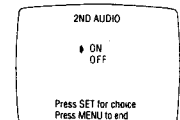
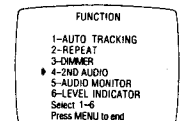
- To listen to the stereo soundtrack while recording, set the on-screen AUDIO MONITOR to "HI-FI". *exp.21*

To Record SAP Programs

- Press MENU.
- Press the 2 key. (Function)
- Press the 4 key. (2nd Audio)
- Press SET to choose ON.
- Press MENU to end.

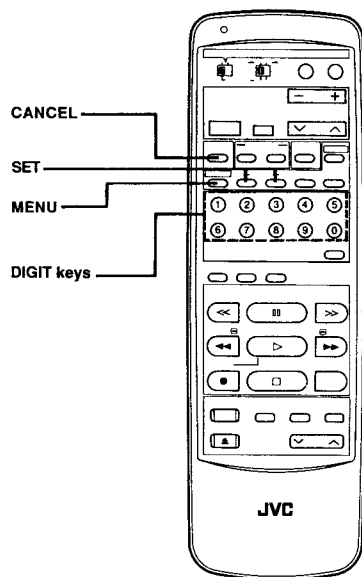
Then follow the basic recording procedure.

- To listen to the SAP audio, be sure to set the on-screen AUDIO MONITOR to "NORM". When set to "HI-FI", you will hear the main audio program; when set to "MIX" both languages will be mixed.





For Timer-Recording



Today's Program

This function offers an easier way to program the VCR for same-day timer-recording. The VCR "assumes" that the date of the program you wish to record is "today" so you don't have to input the date.

- 1 Press MENU.
- 2 Press the 1 key. (Program)
- 3 Press the 1 key. (Today's Program)
- Subsequent steps are the same as steps D - H of "Single Program". [p.15-16.](#)

Weekly Program

This function lets you set the VCR to timer-record at the same time on the same day every week. Use it to record weekly serials.

- 1 Press MENU.
- 2 Press the 1 key. (Program)
- 3 Press the 3 key. (Weekly Program)
- Subsequent steps are the same as steps C - H of "Single Program". [p.15-16.](#)

Daily Program

This function lets you set the VCR to timer-record at the same time everyday, Monday through Friday. Use it to record daily serials (like soaps), news, etc.

- 1 Press MENU.
- 2 Press the 1 key. (Program)
- 3 Press the 4 key. (Daily Program)
- Subsequent steps are the same as steps C - H of "Single Program". [p.15-16.](#)

Program Review

You can check the contents of the VCR's timer memory using this function.

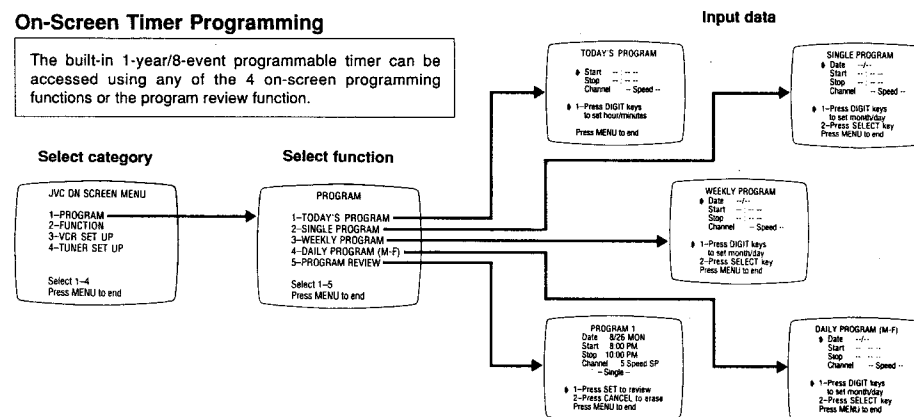
- 1 Press MENU.
- 2 Press the 1 key. (Program)
- 3 Press the 5 key. (Program Review)
- 4 Press SET to review timer-programmed data.
- Press CANCEL to erase a program from memory.
- 5 Press MENU to end.

Things You Should Know

Timer-recording is one of the most useful functions of your VCR, and, if you don't understand it, it can be one of the most complicated too. Although JVC's on-screen programming is designed to make timer programming easier to understand and easier to do, please read the following to get a clear idea about why things work the way they work, and what you should do when things don't work as expected.

On-Screen Timer Programming

The built-in 1-year/8-event programmable timer can be accessed using any of the 4 on-screen programming functions or the program review function.



Error Messages

The following error messages may appear on the VCR's message panel when you press the TIMER button to engage the Timer Standby mode. Here's why, and what you should do.

NO CASSETTE

- Displayed for 5 seconds and the Timer Standby mode is cancelled.

WHY: There is no cassette in the VCR.

WHAT TO DO: Insert a cassette. Press TIMER again.

NO PROGRAM

- Displayed for 5 seconds and the Timer Standby mode is cancelled.

WHY: There are no preset programs in memory.

WHAT TO DO: Check the programmed data and re-program it as necessary. Press TIMER again.

NO REC TAB

- Displayed for 5 seconds and the Timer Standby mode is cancelled.

WHY: The inserted cassette has its safety tab removed.

WHAT TO DO: Eject that cassette. Insert a cassette with its safety tab intact. Or cover the safety tab hole of the cassette with adhesive tape and re-insert it. Press TIMER again. [p.9.](#)



For Timer-Recording (cont'd)

Other Messages

The following messages may also be encountered during timer-recording.

TIMER (with clock display)

WHY: The VCR is in the Timer Standby mode. This is the normal display you should see when you press the TIMER button.

TIMER REC

WHY: Normal display while timer-recording is in progress.

TAPE END

WHY: If this and "TIMER REC" are alternately displayed, it means that the end of the tape was reached while timer-recording was in progress. Therefore, the preset program may not be recorded in its entirety.

SET CLOCK

WHY: This means the clock must be set. It's displayed when time-keeping is terminated due to a power failure or because the VCR's power plug was pulled from the AC outlet.

WHAT TO DO: Set the clock. *See* p. 10.

■ If power was interrupted, it's also likely that all preset timer programming data has been erased. Please check and re-program as necessary.

On Checking And Cancelling Programs

Since executed programs are automatically cleared from memory (except those for daily and weekly serials), cases where the entire 8-event memory is full should be rare. If this should happen, when you select a programming function and open a data input screen, the screen will already be filled with data (instead of the normal input screen where the data items are blank). In such cases, check the preset programs and cancel one or more to make room for the new program(s) you wish to input.

TO CANCEL A PROGRAM

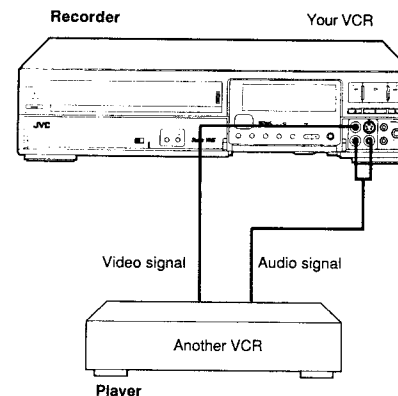
- 1 Press MENU.
- 2 Press the 1 key. (Program)
- 3 Press the 5 key. (Program Review)
- 4 Press SET to review preset programs.
- 5 Press CANCEL to erase the program displayed on the screen from memory.
 - Repeat steps 4 and 5 as necessary.
- 6 Press MENU to end.

Some Facts On Timer Operation

- If the end of the tape is reached during timer-recording, the cassette is automatically ejected and VCR power is switched off with "TIMER REC" and "TAPE END" flashing alternately on the message display panel.
- When timer-recording is successfully completed, the VCR power is automatically switched off.
- Since the timer starts and stops recording based on the time being kept by the VCR's built-in clock, the clock's time must be accurate for correct timer-recording results.

For Editing

Your VCR can be used as either the recording deck or the source player when editing tapes.



Editing From Another VCR

When used as the recording deck, you can use either the rear VIDEO IN and AUDIO IN connectors, or the front INPUT 2 connectors. The front connectors also include an S-Video connector. For permanent connection, we recommend you use the rear panel connectors so that the front panel connectors are open for occasional connection to other components such as a camcorder.

- Front panel connections have priority.
- If connections are made to both the front V (Video) and S (S-Video) connectors, the S connection has priority.

PREPARATION

- 1 Connect the player's VIDEO OUT and AUDIO OUT connectors to your VCR's VIDEO IN (or S-VIDEO IN) and AUDIO IN connectors.
 - With monaural players, use your VCR's AUDIO IN L (MONO) connector.
- 2 Engage the AUX mode on your VCR. (CHANNEL UP/DOWN)
 - "AUX INPUT" or "AUX" will be displayed on the VCR display panel, or on the TV screen.
 - The AUX mode can also be engaged by pressing the digit key "0" on the remote control.

Assemble Editing

Assemble editing adds one recorded scene to another in succession.

- 3 Load the source tape in the player, and the recording tape in your VCR.
- 4 Select the recording speed (SP or EP).
- 5 Put your VCR in the Record-Pause mode.
- 6 Play back the source tape to search for a scene to be edited.
- 7 Press the recorder's PLAY button where you want to start editing.
- 8 Press the recorder's PAUSE button to stop editing.
- 9 Repeat steps 6 through 8 to continue editing.

NOTES:

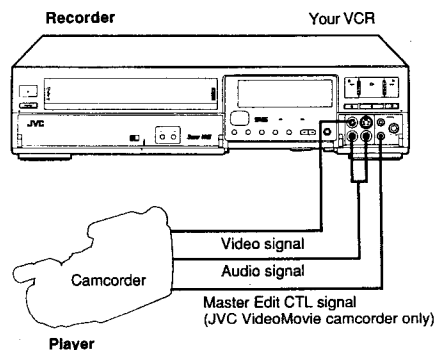
- Insert editing is not possible with cassettes whose safety tab has been removed.
- Insert editing cannot be started from a non-recorded segment.
- In insert editing, the recording speed (SP/EP) is determined by the previous recording to be replaced. If the previous recording's speed changes within a single edit, the inserted picture will be distorted at the switching point.

Insert Editing

Insert editing replaces part of the recorded scene with new material. Both the picture and Hi-Fi audio soundtrack are replaced with new ones, while the normal audio soundtrack remains unchanged.

- 3 Load the source tape in the player, and the recording tape in your VCR.
- 4 Play back the recording tape and engage the Still mode at the edit-in point (the beginning of the segment to be replaced).
- 5 Press INSERT. (Insert-Pause mode)
 - The TV screen changes from the still picture to the input signal you are going to record.
- 6 Play back the segment of the source tape to be inserted.
- 7 Press PLAY.
 - Insert editing will start.
- 8 Press PAUSE to stop insert editing.
 - Do not press STOP to stop insert editing, otherwise the picture will be distorted at the switching point between the newly inserted and previously recorded pictures.

▶ For Editing (cont'd)



- Take advantage of Duet Editing for more convenient control of both the player and recorder. [p.32](#)

E-E (Electric-Electric) Monitoring

The TV MONITOR button serves as an E-E monitor button when editing. While playing back a tape on the recorder (your VCR), pressing TV MONITOR lets you check the contents of the player's tape (connected deck or VideoMovie) without having to stop the recorder's tape. Press TV MONITOR again to return to the recorder's tape.

Swap Editing

Your VCR is equipped with a SWAP terminal. When combined with a swap-control-capable VCR such as the JVC HR-S10000U, editing will be made easier. For more information about swap connection and swap control, refer to the instruction manual of the swap-control-capable VCR.

Advantages Of S-VHS VCRs

You can edit from VHS to S-VHS, S-VHS to VHS, or, needless to say, from S-VHS to S-VHS.

- From VHS to S-VHS (VIDEO-VIDEO connection): Record VHS playback signals in the S-VHS mode. Although the picture quality is inherently limited by that of the original, the edited tape has better picture quality than those made by VHS-to-VHS editing.

Editing From A VideoMovie Camcorder

Tape-to-tape editing is also possible using a VideoMovie camcorder (equipped with playback facility) as the player and your VCR as the recorder. In this case, the VCR's REMOTE PAUSE terminal can be used to accept Master Edit Control commands from the camcorder.

PREPARATION

- Connect the VideoMovie's AV OUT connector to the VCR's front panel INPUT 2 V (Video) and A (Audio) connectors.
 - With a Super VHS VideoMovie, connect its S-OUT connector to the VCR's S connector.
 - If connections are made to both the V and S connectors, the S connection has priority.
 - With monaural VideoMovies, use your VCR's INPUT AUDIO L (MONO) connector.
- Connect the AV output cable's mini-plug to the REMOTE PAUSE terminal of the VCR.
 - If the VideoMovie is equipped with the Master Edit Control system, you can control the VCR using the VideoMovie's controls. See VideoMovie's instruction manual for operating procedures.
 - With this connection, you can also use the VideoMovie as a video camera for direct recording onto the VCR's tape. Put the VCR in Record-Pause and use the VideoMovie's start/stop trigger to start and pause recording. (For direct recording with a separate video camera, a camera adapter is necessary.)

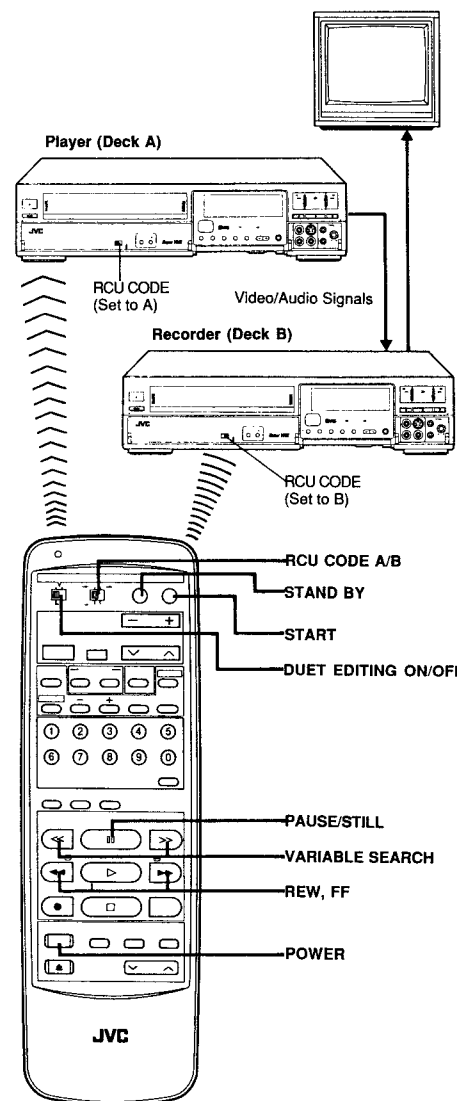
Editing To Another VCR

When used as the source player in combination with another video deck which is preroll-capable and equipped with a Pause Control Output terminal, your VCR's front REMOTE PAUSE terminal can be used for synchronized preroll editing. For more information refer to the instruction manual of the relevant model.

NOTES:

- When using your VCR as a playback deck, select the TAPE DUB mode with the PICTURE button. [p.23](#)
- If you do not want to record on-screen messages on the edited tape, cancel the on-screen display. [p.17](#)

- From S-VHS to VHS (VIDEO-VIDEO connection): Because the picture quality of the source material is very high, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to S-VHS (S-VIDEO connection): All signals will be transferred without degradation.



Duet Editing

For those who have two JVC VCRs and are interested in editing, this function will simplify editing operations by delivering separate commands to two VCRs simultaneously from a single remote control in the form of separate "A" and "B" control codes. (Designated JVC models only.)

PREPARATION

- Connect two JVC VCRs. (REMOTE PAUSE connection not necessary.) [p.31](#).
- Set one VCR to respond to A code signals, and the other to respond to B code signals. [p.31](#) "A/B Code Switching"
- Place the two decks side by side.
- Load a recorded tape into deck A, and a blank tape into deck B.

OPERATION

- Set the DUET EDITING ON/OFF switch to ON.
- Set the RCU CODE A/B switch to "A→B".
- Press STAND BY. Deck A enters Still mode, B enters Record-Pause mode.
- Search for a scene you want to edit from deck A to deck B (only deck A will move) and press PAUSE/STILL.
- Press START. Deck A enters Play mode, B enters Record mode.
- Press PAUSE/STILL. Deck A enters Still mode, B enters Record-Pause mode.
 - Repeat steps 8, 9 and 10 to continue editing.

A/B Code Switching

The VCR's code is determined by the setting of the RCU CODE switch. Both the VCR's and remote's RCU CODE switches are preset to "A". For B code remote operation, set both switches to "B". The VCR will only respond to B code signals.

NOTES:

- With the VCR's RCU CODE switch set to "OFF", the VCR will not respond to any remote control signals.
- For changing the code mode of another JVC VCR, refer to the instruction manual of the relevant model. JVC VCRs not equipped with this function are generally designed to respond to A code signals.

CAUTION:

Some TV sets may malfunction in response to the B mode. If this happens switch back to the A mode.

NOTES:

- To use deck B as source player and deck A as recorder, set the RCU CODE A/B switch to "B→A".
- To cancel the Duet Edit mode, set the DUET EDITING ON/OFF switch to OFF.

List Of VCR Display Panel Messages

Displayed Message	When It Appears and What It Means
During Clock Set	
CLOCK SET TIME 12:59 AM M11/D30/Y91	Clock Set mode is selected. *12:59AM* is input for the time. *November 30, 1991* is input for the date.
During Program Set	
TODAY PROG SINGLE PROG WEEKLY PROG DAILY PROG DATE 12/31 START 11:00AM STOP 12:30AM CHANNEL 10 SPEED EP	"Today's Program" menu is selected. *Single Program* menu is selected. *Weekly Program* menu is selected. *Daily Program* menu is selected. *December 31* is input for the rec start date. *11:00AM* is input for the rec start time. *12:30PM* is input for the rec stop time. *10* is input as the channel to be recorded. *EP* is chosen as the recording speed.
During Channel Set	
CHANNEL SET CHANNEL 10 ADD SKIP	Channel Set mode is selected. *Channel 10* is scanned/input. The channel is memorized/added. The channel is skipped/deleted.
During Normal Operation	
PLAY STOP	Normal playback is in progress. Stop mode has been engaged. Displayed for 2 seconds.
STILL FF REW	A still picture is being viewed. Fast-forwarding. Rewinding.
REC SP 10 REC SP 1:30	Recording "Channel 10" in "SP". Recording with the Off Timer set to shut off in 1 hour 30 minutes.
PAUSE 10 INSERT INSERT P TIMER REC FWD SLOW REV SLOW FWD SEARCH REV SEARCH SKIP SEARCH BLNK SEARCH INDEX +9	Recording is paused. Insert editing is in progress. Insert editing is paused. Timer-recording is in progress. Forward slow motion is in progress. Reverse slow motion is in progress. Forward search is in progress. Reverse search is in progress. Skip Search is in progress. Blank Search is in progress. Searching for the 9th index code in the forward direction.
INDEX -4	Searching for the 4th index code in the reverse direction.
INDEX MARK INDEX ERASE INDX REPEAT FULL REPEAT CHANNEL 10 TV MONI 23	Index code is being marked. Index code is being erased. Segment Repeat playback is in progress. Full Repeat playback is in progress. Channel 10 is being received. TV Monitor is engaged, channel 23 is being received.
AUX INPUT EJECT	Auxiliary input source is being received. Cassette is being ejected.

NOTES:

This list represents the various types of messages your VCR is capable of generating. Actual messages displayed by your VCR (esp. if date, time, channel, tape counter reading, or other variables are involved) will differ slightly from those listed here.

Helpful Terms And Information

The following glossary is for your convenience in helping you better understand your VCR and its operation.

Auto Channel Set: Part of the "TUNER SET UP" function. When used, the VCR runs through (scans) all the channels on the VCR, automatically placing all channels receivable in your area into the VCR's memory.

AV: Short for Audio/Video. Often refers to separate audio (sound) and video (picture) signals which, when combined, make up a program.

AV Connection: Type of VCR-to-TV connection in which the VCR's AUDIO OUT and VIDEO OUT terminals are connected to the TV's AV IN terminals. Audio and video signals are sent separately and directly to the TV without having to modulate them into RF signals.

Bands: Four settings are available on the VCR so you can receive TV programming from just about any broadcaster.

TV:

Use this setting to receive VHF (Very High Frequency) and UHF (Ultra High Frequency) channels only. These are received by the tuner on channels 2 thru 13, and 14 thru 69, respectively.

CATV:

Short for Community Antenna TV, and commonly referred to as simply "Cable TV". Use this setting to receive channels on cable.

HRC:

Use this setting if your particular cable system is HRC (Harmonically Related Carrier).

ICC:

Use this setting if your particular cable system is ICC (Incremental Coherent Carrier).

Cassette Adapter: Provided with most Compact VHS camcorders, and also available optionally, it allows VHS-C cassettes to be played (and recorded) on VHS VCRs just like full-size VHS cassettes.

Editing: Refers to dubbing or tape-to-tape editing (in which the contents of a tape in one video unit are copied to another tape in a second video unit), and to creative editing (in which video programming is actually modified to create something different from the original).

FDP: Short for Fluorescent Display Panel, which is the type of display panel used on this VCR.

Head: An electronic component which "writes" or "reads" video signals on the tape.

Head Drum: A drum-shaped cylindrical assembly on which the video heads are located. It rotates at high speed, allowing the heads to "write" and "read" diagonal signal tracks on the video tape.

HQ (High Quality): An enhancement feature in the VCR circuitry which provides greater picture detail.

Index Code: An electronic code "written" on the tape's control track when recording is started or when the Index Mark facility is used. Index codes can be used to facilitate program search, and have absolutely no effect on recorded pictures or sound.

Master Edit Control System: A properly-equipped VideoMovie camcorder sends a control signal to the VCR via the REMOTE PAUSE terminal, "telling" the VCR to release the Pause mode.

Mode: The status of the VCR (the operating feature being used) at any given time. (e.g. The tape is being rewound = the VCR is in the Rewind mode.)

On-Screen Menu System: VCR functions are easier to operate because they can be chosen, and required data can be input, while viewing special screens displayed on your TV.

Preroll: The VCR backtracks the tape slightly from its original position in Pause or Still so that when Pause/Still is released, the VCR is able to "roll" the tape and get it up to its most stable speed by the time Record or Play is resumed.

Preroll Editing: When two properly-equipped VCRs are used in editing, the recording deck sends a control signal to the playback deck via the REMOTE PAUSE terminal, "telling" it to release the Still mode after the recording deck has completed preroll.

Realtime Counter: The VCR's tape counter shows tape time precisely in hours, minutes and seconds (unlike simple sequential counters). The counter resets automatically when a cassette is inserted.

RF Coaxial Cable: Black insulated round cable used to connect the VCR to the TV.

RF Connection: Type of VCR-to-TV connection in which the VCR's RF (Radio Frequency) OUT terminal is connected to the TV's ANTENNA terminal. The VCR essentially "broadcasts" the program to your TV on channel 3 or 4.

Special Effects: Playback modes other than normal-speed forward playback; includes still playback (stop motion), slow motion, and high-speed visual search.

Super VHS: A version of the VHS format which was developed to provide pictures with over 400 lines of horizontal resolution. This VCR can handle both standard VHS and Super VHS (S-VHS) signals.

Tape Speeds: This determines how fast the tape travels during a recording.

SP (Standard Play):

Fast tape speed. Provides recording time of about 2 hrs. per T-120 cassette, and 2 hrs. 40 mins. per T-160 cassette. Most prerecorded VHS software is recorded in SP.

EP (Extended Play):

Slow tape speed. Provides recording time of about 6 hrs. per T-120 cassette, and 8 hrs. per T-160 cassette. Useful for multiple-program recording on a single cassette.

Some manufacturers sell VCRs with an intermediate LP (Long Play) speed, which is not officially recognized as a VHS standard. This JVC VCR can play back LP-recorded tapes, but will not record in that tape speed.

Timer-Recording: Using the VCR's built-in clock/timer for automatic, unassisted start and stop of recording.

Tracking: The video head's ability to accurately "read" recorded signals (tracks) without deviating. When tracking deviation occurs, it appears on the screen as vertical jitter and grainy streaks. The Digital Tracking function on this VCR is an extremely accurate automatic tracking system which greatly reduces the possibility of deviations.

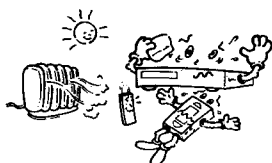
Tuner: The part of the VCR that receives TV signals off the air and via cable. The Frequency Synthesized Tuner of this VCR is highly accurate, and is capable of receiving up to 181 channels.

VCR: Short for Videocassette Recorder.

VHS: The video format of this VCR, and the video format most widely used throughout the world.

Precautions

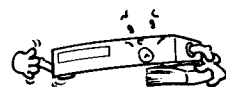
VCR, Remote Control, And Cassette Care



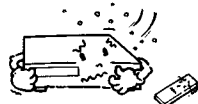
Avoid extreme heat and direct sunlight



Avoid strong magnetic fields



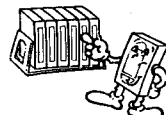
Use the VCR in a stable, horizontal position only



Avoid extreme cold



Do not block the VCR's ventilation openings



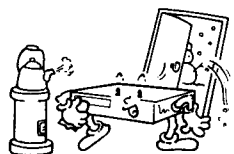
Place cassettes in cassette cases and store vertically



Avoid extreme humidity



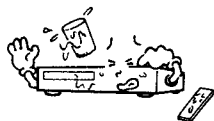
Do not place anything heavy on the VCR or remote control



Beware of moisture condensation
Moisture in the air will condense on the VCR when you move it from a cold place to a warm place, or under extremely humid conditions — just as water droplets form on the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the VCR's power turned on for a few hours to let the moisture dry.



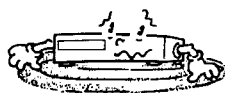
Avoid dust



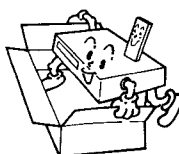
Do not place anything which might spill on top of the VCR or remote control



Avoid places subject to vibrations



Do not place the VCR on cushions, pillows, or thick carpeting



When transporting

- Be sure to remove cassette from VCR before packing
- Avoid violent shocks to the VCR during packing and transport

Specifications

GENERAL

Power requirement	: AC 120 V~, 60 Hz
Power consumption	: 34 W
Temperature	
Operating	: 5°C to 40°C (41°F to 104°F)
Storage	: -20°C to 60°C (-4°F to 140°F)
Humidity	
Operating	: 35% to 80%
Storage	: 5% to 80%
Operating position	: Horizontal only
Dimensions (WxHxD)	: 435 x 102 x 373 mm (17-3/16" x 4-1/16" x 14-11/16")
Weight	: 6.4 kg (14.2 lbs)
Format	: S-VHS/VHS NTSC standard with Hi-Fi audio
Tape width	: 12.65 mm
Tape speed (SP)	: 33.35 mm/sec (1-5/16 ips)
(EP)	: 11.12 mm/sec (7/16 ips)
Maximum recording time (SP)	: 160 min. with T-160 video cassette
(EP)	: 480 min. with T-160 video cassette

VIDEO

Signal system	: NTSC-type color signal and EIA monochrome signal, 525 lines/60 fields
Recording system	: Rotary two-head helical scan system with slant double-azimuth combination video heads
Input	: 0.5 to 2.0 Vp-p, 75 ohms, unbalanced
Output	: 1.0 Vp-p, 75 ohms, unbalanced
Signal-to-noise ratio	: 45 dB (Rohde & Schwarz noise meter) with PICTURE CONTROL set to OFF
Horizontal resolution	: 240 lines (VHS) 400 lines (S-VHS) with PICTURE CONTROL set to OFF

AUDIO

Input	: -8 dBs, more than 50 k-ohms, unbalanced
Output	: -8 dBs, less than 1 k-ohm, unbalanced (100 k-ohms, load)

NORMAL AUDIO

Recording system	: Longitudinal track
No. of channels	: 1 normal audio channel
Frequency response	: 70 Hz to 10,000 Hz

HI-FI AUDIO

Recording system	: Deep-layer recording system conforming to stereo Hi-Fi VHS standard
No. of channels	: 2 Hi-Fi audio channels
Frequency response	: 20 Hz to 20,000 Hz
Dynamic range	: More than 90 dB
Wow and flutter	: Less than 0.005% WRMS

TUNER

Tuning system	: Frequency synthesized tuner
Channel coverage	
(VHF)	: Channels 2-13
(UHF)	: Channels 14-69
(CATV)	: 113 Channels
RF output	: Channel 3 or 4 (switchable; preset to Channel 3 when shipped) 75 ohms, unbalanced

TIMER

Clock reference	: Quartz-crystal
Program capacity	: 1-year programmable timer/ 8-programs

ACCESSORIES

Provided accessories	: RF cable (F-type), Infrared remote control unit, "AA" battery x 2, Audio cable, Video cable, S-Video cable (4-pin), Mini-plug cable
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E. & O.E. Specifications shown are for SP mode unless otherwise specified.
Design and specifications subject to change without notice.

In Case Of Difficulties

POWER AND TAPE TRANSPORT PROBLEMS

Symptoms	Check points
No power is applied to the VCR.	Is the power cord disconnected? — Connect it.
Clock is functioning properly, but the VCR cannot be powered.	Is "TIMER" displayed on the display panel? — Press the TIMER button to extinguish the display.
Tape stops during rewind or fast-forward.	Is the COUNTER MEMORY button pressed? — Press again to make "M" disappear from the display panel.
Tape will not rewind or fast-forward.	Is the tape already fully rewound or fast-forwarded? — Check the cassette.

RECORDING PROBLEMS

Symptoms	Check points
Recording cannot be started.	- Is a cassette loaded? - Is the safety tab on the cassette removed? — Reseal the slot with adhesive tape.
TV broadcasts cannot be recorded.	Has "AUX" been selected? — Set to the desired channel.
Tape-to-tape editing is not possible.	- Is the camcorder or VCR correctly connected? - Are all necessary power switches turned ON? - Has "AUX" been selected? — Set to "AUX".
Camera recording is not possible.	- Is the camcorder correctly connected? - Has "AUX" been selected? — Set to "AUX".
Timer recording is not possible.	- Have you set the clock correctly and programmed the timer correctly? — Check once again. - Is "TIMER" displayed on the display panel? — If not, press the TIMER button to display "TIMER".

PLAYBACK PROBLEMS

Symptoms	Check points
Playback picture does not appear while the tape is running.	- If you are using RF OUT connection, is the TV receiver's channel selector set to the correct video channel? — Set it to the RF converter channel (3 or 4). (Exp.8) - If you are using AV connection, is the TV receiver set to the AV mode? — Set it to the AV mode.
Playback is repeated.	Is "REPEAT" on the VCR SET UP menu set to either "FULL" or "SEGMENT"? — Set it to "NO".
Noise appears during visual search.	This is normal.
Noise appears during playback.	Is the automatic tracking mode engaged? — Try manual tracking. (Exp.22)
Playback picture is blurred or interrupted while TV broadcasts are clear.	Video heads may be dirty. — Head cleaning is necessary. Consult your JVC dealer. (Exp.38)

HI-FI AUDIO PROBLEMS

Symptoms	Check points
Breaks are noticeable in Hi-Fi audio reproduction.	Is the automatic tracking mode engaged? — Try manual tracking. (Exp.22)
Hi-Fi soundtrack cannot be reproduced.	Is "AUDIO MONITOR" on the FUNCTION menu set to "NORM"? — Set it to "HI-FI".

OTHERS

Symptoms	Check points
Clock setting is not possible.	Is "TIMER" displayed on the display panel? — Press the TIMER button to extinguish the display.
Some channels are skipped over when scanning channels.	Those channels are preset to be skipped over. If you need them, restore them. (Exp.19)
Channel cannot be switched.	Is recording in progress? — Press the PAUSE/STILL button, change the channel, and press the PLAY button.
Snowy picture on screen when viewing TV programs while recording another program.	Is the VIDEO indicator lit? — Press the TV/VIDEO button so that the indicator extinguishes.
Remote control does not function.	- Are the batteries discharged? — Replace with new ones. - Is the A/B CODE switch set to the proper code for the VCR being operated? — Reset the A/B CODE switch to the correct setting.
Index Search does not function properly.	Adjacent index codes may be too close to each other. — Erase some index codes and mark new ones if necessary, with sufficient distance between any two index codes.

ATTENTION:

This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the power off and unplug the power cord. Then plug it in again and switch on. Take out the cassette. After checking the cassette, operate the unit as usual.

Special Note On Head Cleaning



Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted. Although this model is equipped with a built-in head cleaner which automatically cleans the heads, reducing the likelihood of dirty heads, if such troubles are encountered please consult the nearest JVC dealer.



Auto Head Cleaner

A built-in head cleaner automatically cleans the video heads and head drum whenever a tape is loaded or unloaded to reduce head clogging.

SECTION 1

DISASSEMBLY AND MECHANISM ADJUSTMENTS

1.1 DISASSEMBLY

1.1.1 Top cover

1. Set for the EJECT (Stop) mode and disconnect VCR from AC power.
2. Take out four screws (A). To remove the top cover, slide it in the direction of the arrow and lift it away.

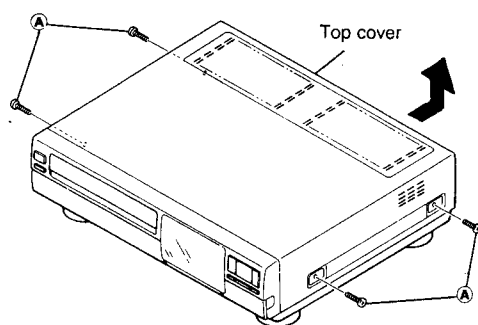


Fig. 1-1-1

1.1.2 Front Panel assembly

1. Remove the top cover.
2. Carefully disengage three tabs (a) of the front panel assembly from the upper side of the chassis.
3. Refer to Fig. 1-1-2 and pull the front panel assembly forward you to disengage three tabs (b) of the front panel assembly from the bottom side of the chassis, then remove the front panel assembly.

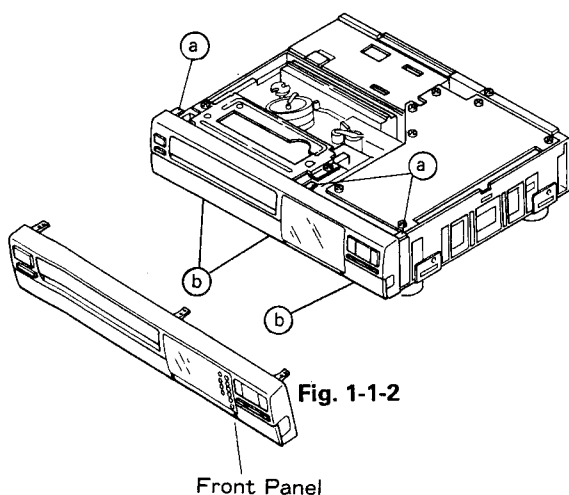


Fig. 1-1-2

1.1.3 Bottom cover

1. Remove the top cover.
2. Remove four screws (B) and four feet.
3. Take out four screws (C) from the bottom of the chassis.

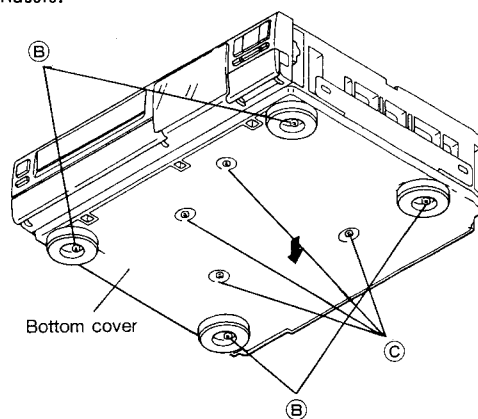


Fig. 1-1-3

1.1.4 VIDEO board assembly

1. Remove the top cover.
2. Take out six screws (D) and three screws (E) from video board assembly.
3. Remove the video board assembly with terminal board in the upward direction.

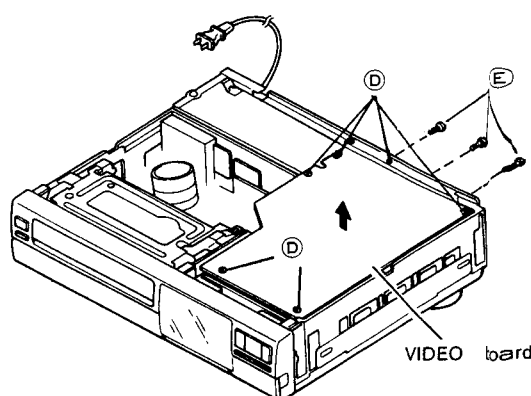


Fig. 1-1-4

1.1.5 SW. REGULATOR Unit assembly

1. Remove the top cover.
2. Refer to section 1.1.4 and remove the VIDEO board assy.
3. Take out two screws (F) from the SW. REGULATOR unit assy.
4. Remove the SW. REGULATOR Unit assy in the upward direction.

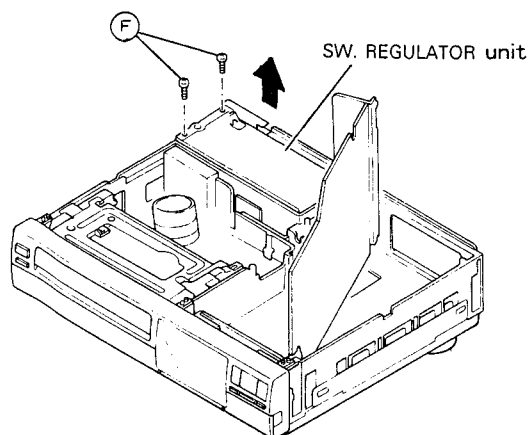


Fig. 1-1-5

1.1.6 PRE/REC board assembly

1. Remove the top cover.
2. Take out two screws (G).
3. Disconnect connectors from the PRE/REC board assy and remove the PRE/REC board assy in the upward direction.

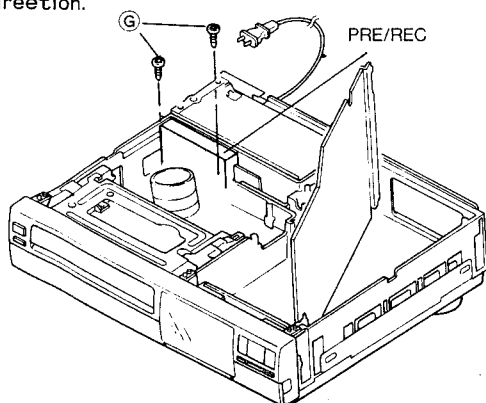


Fig. 1-1-6

1.1.7 TIMER/DISPLAY/SW board assembly

1. Remove the top cover and front panel.
2. Disengage five tabs (C) of the upper side of the chassis, then remove the TIMER/DISPLAY/SW board assy.

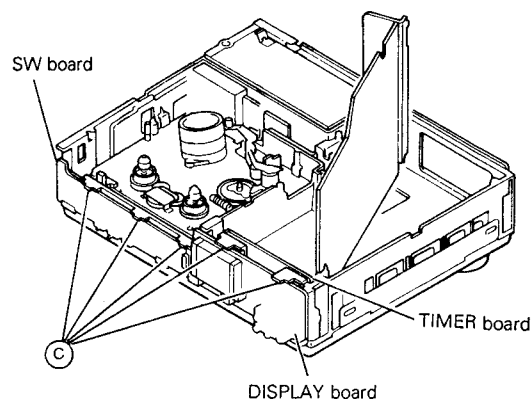


Fig. 1-1-7

1.1.8 Main-deck

1. Remove the top cover, front panel assembly and cassette housing assembly.
2. Take out three screws (H) from the main-deck assembly.
3. Remove the main-deck assembly in the upward direction.

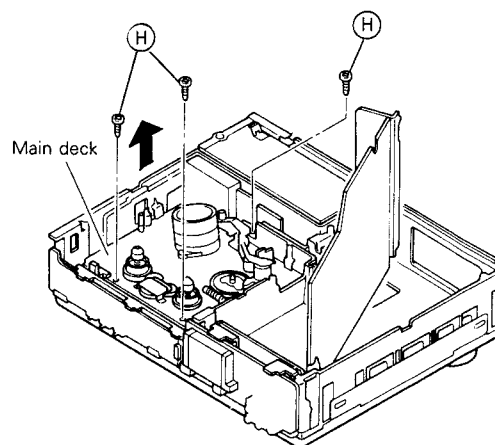


Fig. 1-1-8

1.1.9 Cassette housing

1. Remove the top cover and front cover.
2. Take out four screws ① that secure the cassette housing.
3. Remove the cassette housing in the upward direction.

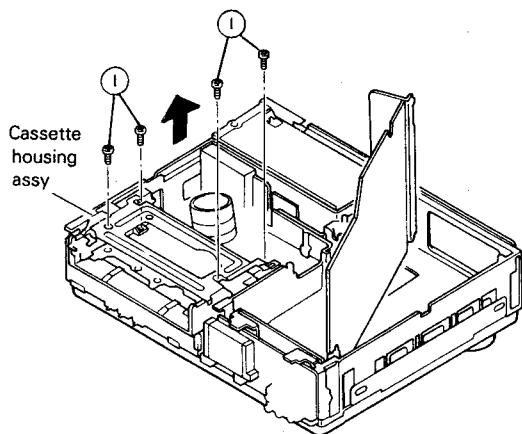


Fig. 1-1-9

3. Check that the cassette housing is in the eject state (internal holder of the cassette housing is locked in raised position).

Set the cassette housing into place and secure with four screws.

4. Install the front panel as shown in Fig. 1-1-12 and reengage the tabs. Supply power and use a spare cassette to check for normal loading and eject operations.

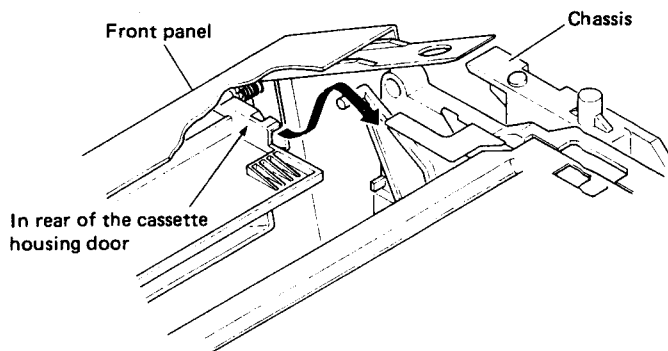


Fig. 1-1-12

1.1.10 Cassette housing installation

1. On the main deck, observe the positional relationships of the parts indicated in Fig. 1-1-10.

If necessary, turn the loading motor by hand to obtain these positions.

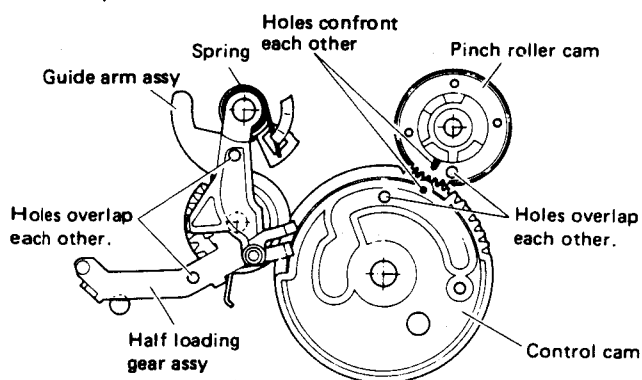


Fig. 1-1-10

2. Confirm that the clutch is engaged.
If necessary, press the lever indicated by the arrow to where the clutch is engaged.

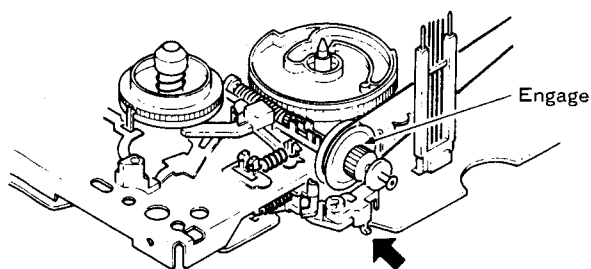


Fig. 1-1-11

1.2 MECHANISM ADJUSTMENTS

1.2.1 Precautions

1. Disconnect mainframe from AC power before soldering.
2. Avoid imparting stress to wires when disengaging connectors.
3. Determine and correct the cause of difficulty before proceeding to adjustments. Do not disturb settings unnecessarily.
4. Use care not to damage tabs, claws, etc. during repairs.
5. Install the cassette housing assembly only when the mechanism is in the Eject or Stop mode position. In the Eject mode, the internal holder of the housing is fully raised. This is fully lowered in the Stop mode.
6. When installing the front panel assembly, be sure to engage the housing door with the door lever of the cassette housing assembly. If this step is omitted, the door will not open at Eject and the cassette cannot be removed.

1.2.2 Check without cassette housing

Mechanism operations can be observed easily by removing the cassette housing assembly. Note the following.

1. Disable the photo transistor sensor (END SENSOR) on the main-deck by applying an opaque cover.
2. Connect pins 2 and 3 of DECK TERMINAL board connector CN3. (See Fig 1-2-1)
3. Select the desired modes with the operation buttons. However, notice that without tape, setting for the reverse direction modes produces the Stop mode after a few seconds due to absence of the reel sensor output.

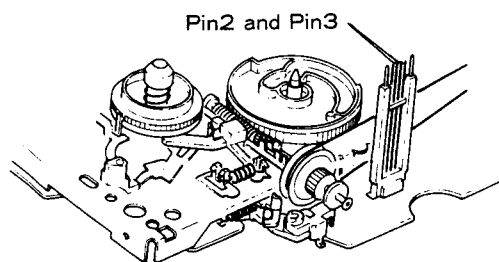


Fig. 1-2-1

1.2.3 Manually removing cassette tape

In event of electrical system failure that prevents the tape from being unloaded, the tape can be removed manually by the following procedure. Refer to Figs. 1-3-1, 1-3-2 and 1-3-3.

1. Disconnect power cord from AC outlet.
2. Turn the loading motor by hand so that the control cam rotates clockwise. This retracts the pole base assembly to the unloading position.
3. Continue turning to where the guide arm and half loading gear assemblies shift to beneath the cassette.
4. Turn the clutch assembly at the rear of the deck to absorb slack tape within the cassette.
5. Again turn the loading motor in the same direction to raise the cassette and remove it.

1.2.4 Test equipment

The following special tools and fixtures are required for mechanism adjustment.

1. Alignment tapes : MH-1 (SP) and MH-1L (LP)
Stairstep signal is employed for interchangeability checks and adjustments.
2. Torque gauge : PUJ48075-2
Measures tape take-up torque.
3. Back tension cassette gauge : PUJ48076-2
Measures tape tension at the supply side.
4. A/C head positioning tool : PUJ47351-2
Shifts the head base for adjusting the control head position.
5. Roller driver : PTU94002
Turns the guide roller for adjusting FM linearity.
6. Presetting unit : PTU94008
Use for auto tracking preset adjustment.

1 Alignment tape	2 Torque gauge	3 Back tension cassette gauge	4 A/C head positioning tool	5 Roller driver	6 Presetting unit

Fig. 1-2-2 Test equipment

1.3 MAIN MECHANISM PARTS

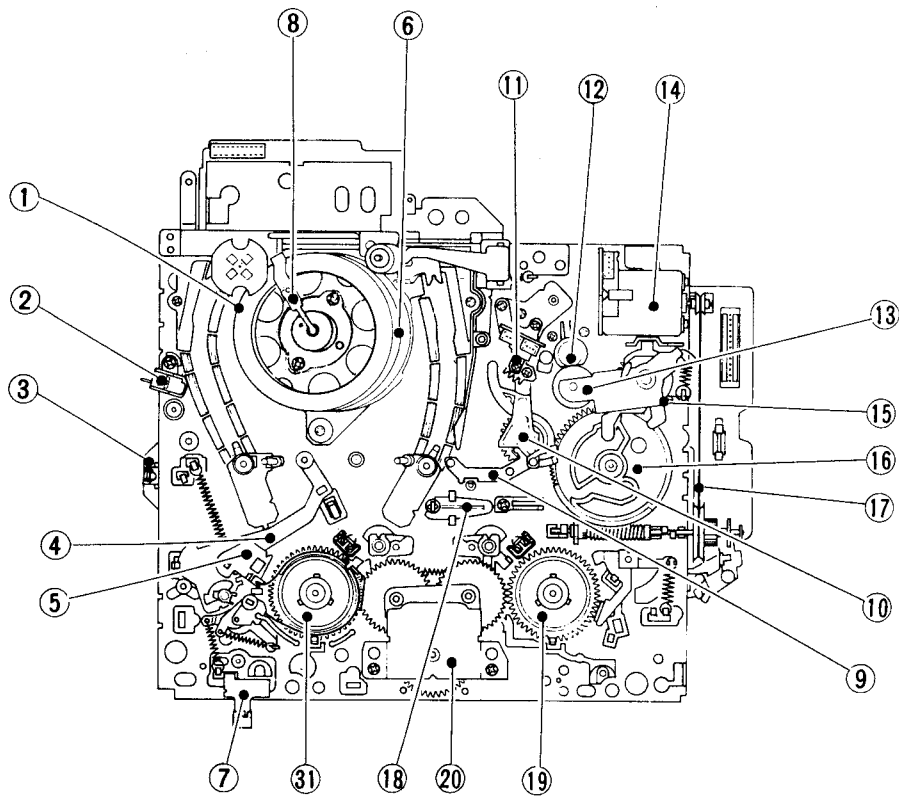


Fig. 1-3-1 Top view of main-deck

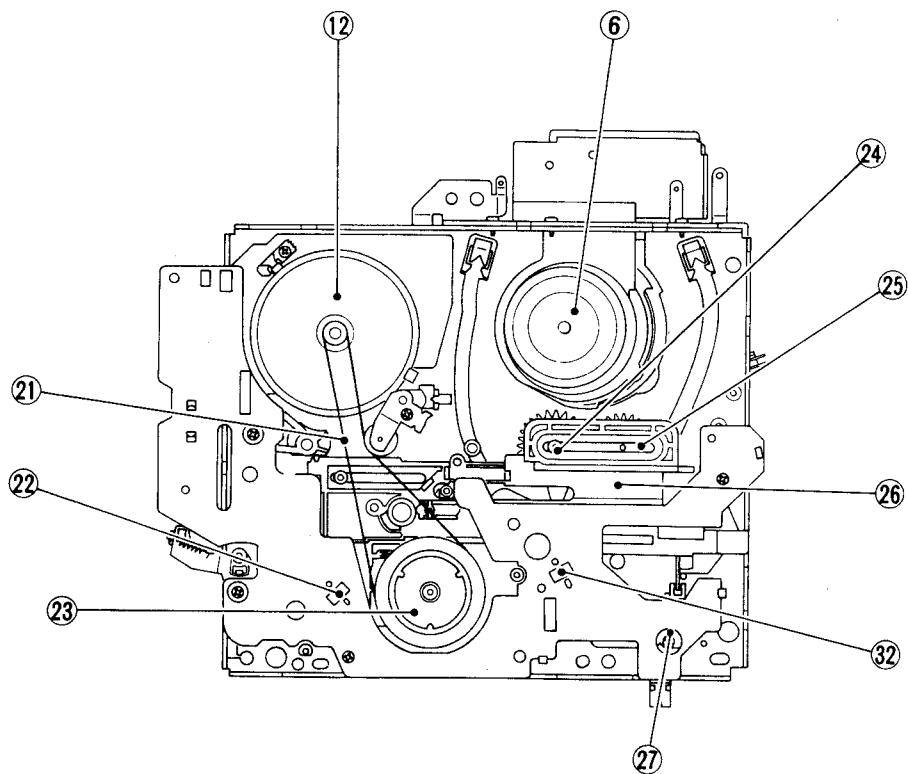


Fig. 1-3-2 Bottom view of main-deck

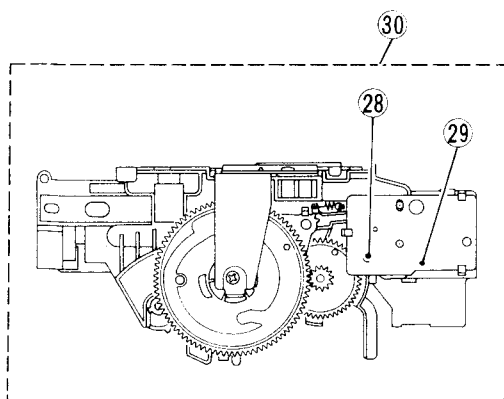


Fig. 1-3-3 Side view of cassette housing

A. Cleaning

Periodic cleaning of the tape transport system is desirable, but ordinarily not feasible in practice. Therefore, perform cleaning when a set is brought in for repairs or maintenance. Contamination of the video heads, tape guides and brushes can detract from playback picture quality and in extreme cases, even damage the tape. For cleaning, use a fine-mesh cotton cloth (about the texture of a white dress-shirt) moistened in alcohol.

- To clean the video heads, press the moistened cloth gently against the upper drum with fingertip and turn the drum by hand.
- Do not use a vertical stroke, as this may damage the heads.

B. Lubrication

Oil and grease do not normally require periodic replenishing. Apply only when replacing lubricated parts (also clean and replace lubrication of mating parts if soiled).

For parts and points to apply oil and grease, refer to the exploded views of the mechanism assembly.

Before oiling, clean with alcohol.

Apply one or two drops of oil. Avoid excess oil.

1. Table 1-1 indicates the oil and grease used in this set. Use these or recommended locally available equivalents.

No.	Parts No.	Category
1	COSMO-HV56	Oil
2	KANTO-G-31KAV	Grease

Table 1-3-1

2. Grease is not required for a replacement cassette housing assembly, as this has been applied at the factory.

Notes: *Stir grease that has been stored for an extended period.*

C. Main mechanical parts

See Figs. 1-3-1, 1-3-2 and 1-3-3.

No.	Symbol	Parts Name	See Section
1	M32A	Upper drum assy	
2	M44	Full erase head	
3	51Q1	End sensor	
4	M41	Tension arm assy	1.5.5
5	M42	Tension band assy	1.5.5
6	M32C	Lower drum motor assy	1.5.2
7	M461	REC safety switch	
8	M32D	Brush assy	
9	M449	Half loading gear assy	1.5.6
10	M447	Guide arm assy	1.5.6
11	M48	A/C head	1.5.4
12	M422	Capstan motor	
13	M442	Pinch roller arm assy	
14	M434	Mode motor assy	
15	M446	Pinch roller cam	1.5.6
16	M438	Control cam	1.5.6
17	M437	Loading belt	
18	M460	LED holder (D1)	
19	M430	Reel disk (take-up)	
20	M424	Idler gear assy	
21	M429	Timing belt	
22	51PS1	Take up reel sensor (PS1)	
23	M426	Clutch assy	1.5.7
24	M433	Take up loading arm assy	1.5.8
25	M432	Supply loading arm assy	1.5.8
26	M439	Plate assy	1.5.8
27	M462	Slide encorder (S3)	
28	56PS3	Cassette sensor (PS3)	
29	56Q2	Start sensor (Q2)	
30	M325	Cassette housing assy	
31	M470	Reel disk (supply)	
32	51PS2	Supply reel sensor (PS2)	

- Symbol interpretation example

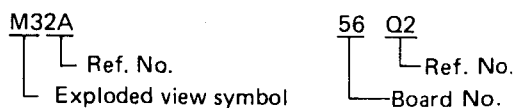


Table 1-3-2

1.4 INSPECTION AND MAINTENANCE

This product employs rotary and moving parts which wear in the course of usage. Periodic inspection, cleaning, lubrication and maintenance are therefore important for ensuring maximum performance. Worn parts must also be replaced when required.

1.4.1 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning, lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions. However, the indicated components should be inspected when a set is brought in for service and the maintenance work performed if necessary.

Also note that rubber parts may deform in time, even if the set is not used.

System	No.	Parts Name	Symbol No.	Periodic servicing schedule (operation hours)							
				250	500	750	1000	1250	1500	1750	2000
Tape Transport	1	Upper drum assy	M32A	★	★	☆	○	○	○	○	○
	11	A/C head	M48	★	★	★	○	○	○	○	○
	13	Pinch roller arm assy	M442	★	★	★	○	○	○	○	○
	2	Full erase head	M44	★	★	★	○	○	○	○	○
	4	Tension arm assy	M41								
	6	Lower drum assy	M32C				○	○	○	○	○
	12	Capstan motor	M422	★	★	★	★	★	★	★	★
	9	Half loading gear assy	M449								
	10	Guide arm assy	M447								
Drive	12	Capstan motor	M422				○	○	○	○	○
	17	Loading Belt	M437				○	○	○	○	○
	21	TIMING belt	M429				○	○	○	○	○
	19	Reel disk (take-up)	M430				○	○	○	○	○
	31	Reel disk (supply)	M470				○	○	○	○	○
	23	Clutch assy	M426								○
	14	Mode motor assy	M434				○	○	○	○	○
		Worm clutch assy	M436								△
Others	26	Plate assy	M439								△
Others	5	Tension band assy	M42				○				○
	8	Brush assy	M32D				○				○

★ : Cleaning

☆ : Cleaning (or Replacement if necessary)

△ : Lubrication

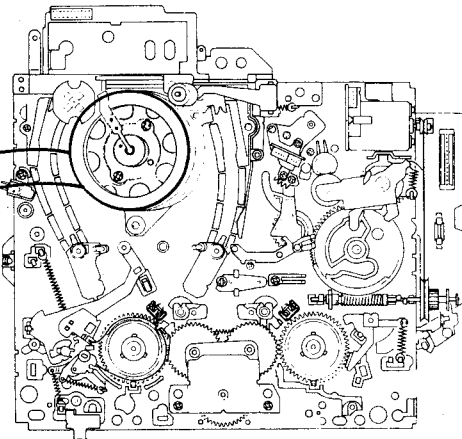
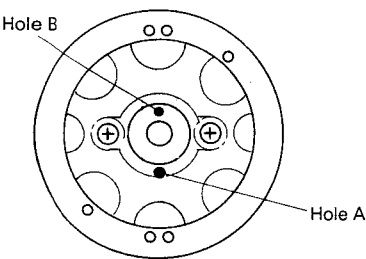
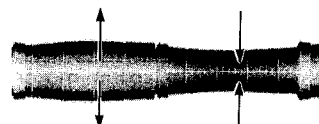
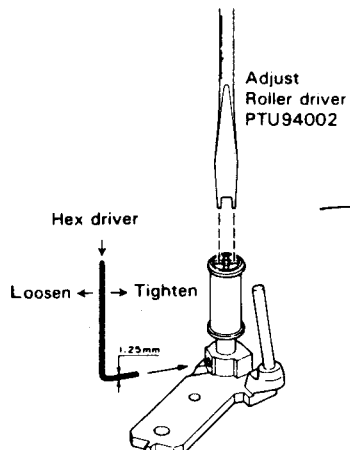
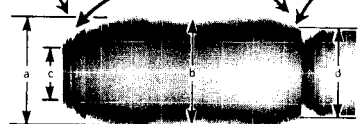
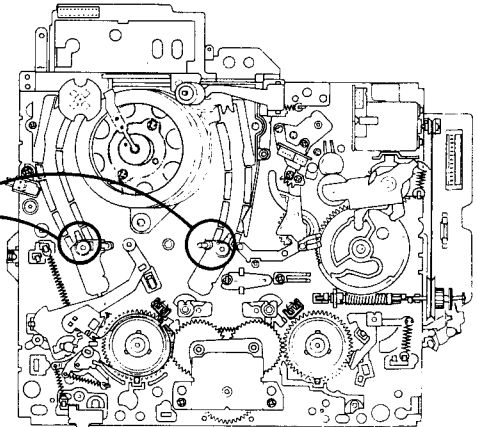
No: Refer to Main mechanical parts

▲ : Lubrication (or Replacement if necessary)

○ : Inspection or Replacement if necessary

Table 1-4-1 Approximate maintenance schedule

1.5 MAIN PARTS REMOVAL AND REPLACEMENT

No.	Item	Checkpoints	Adjustment and Checks
1	Upper drum assembly •Symptoms: FM signal absent, intermittent or weak on one channel; large difference in channel output levels •Cause: Worn or damaged video heads, poor response, etc.	 Fig. 1-5-2 Drum Position	
	 Fig. 1-5-1 DRUM TOP VIEW	Mounting direction See Fig. 1-5-1. (Symptom: no picture) Axis wobble See Fig. 1-5-3. (Symptom: jitter, poor FM linearity) PB FM: VIDEO board TP6 FF: Video board TP11	After replacing, observe that upper drum hole A is opposite the motor axis from lower drum hole B. Record and playback in LP mode. Confirm absence of large difference between channels. (Fig. 1-5-3)  Fig. 1-5-3 Axis wobble
	 Fig. 1-5-4 S.T. Pole base	FM linearity check See Fig. 1-5-5. (Symptom: vertical sync absent, picture noise) PB FM: VIDEO board TP6 FF: Video board TP11  Fig. 1-5-5 FM linearity $\frac{b}{a} \geq 0.7, \frac{c}{a} \geq 0.65, \frac{d}{a} \geq 0.65$	 Fig. 1-5-6 S.T. Pole base position 1) Play staircase signal of the MH-1 Alignment Tape. Confirm absence of obvious FM waveform loss and that operating the Tracking yields the optimum point. 2) Refer to Fig. 1-5-4, adjust for loss at the left edge (drum entry) of the FM waveform by turning the guide roller of the supply pole base. Similarly, adjust for loss at the right edge (drum exit) by turning the guide roller of the take-up pole base. Note: If FM loss occurs on both channels and cannot be corrected by adjusting the guide rollers, the lower drum needs replacement.

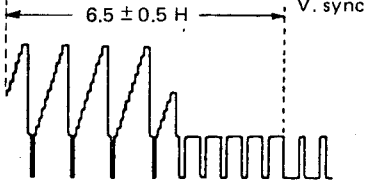
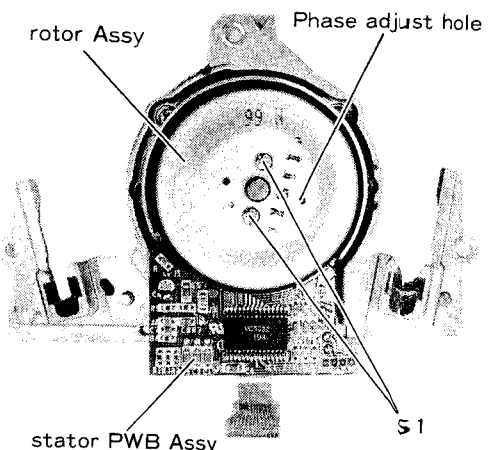
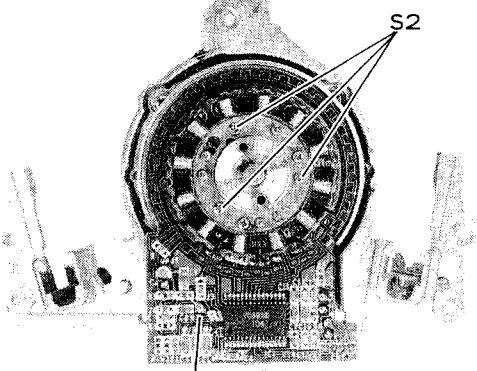
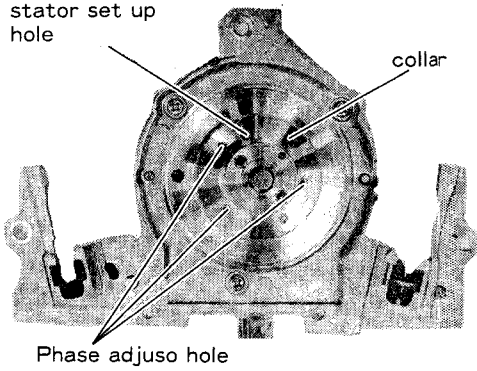
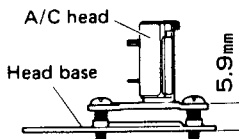
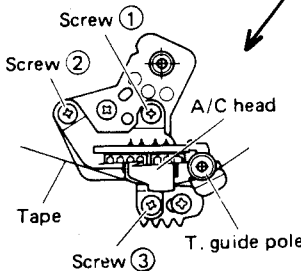
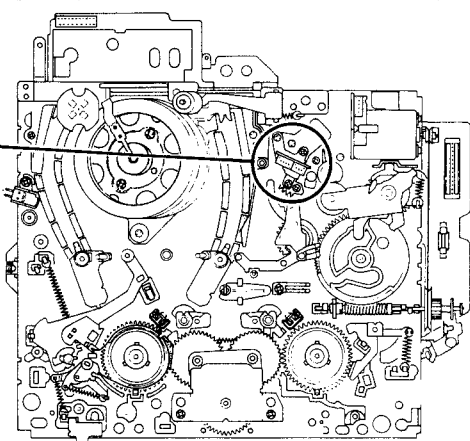
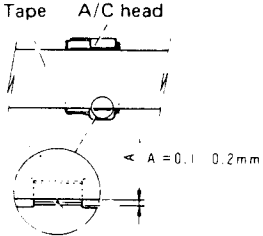
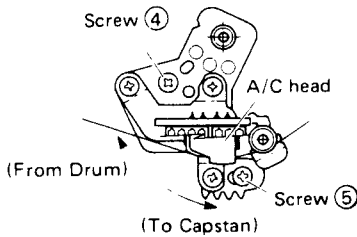
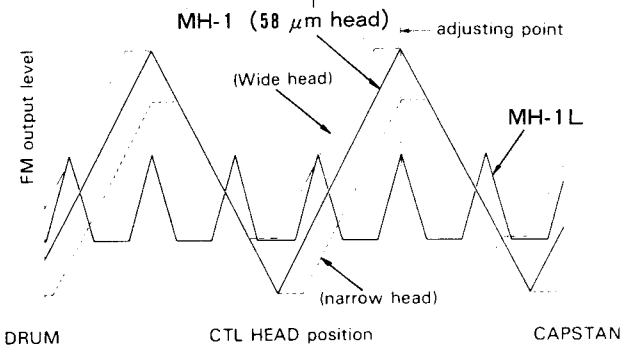
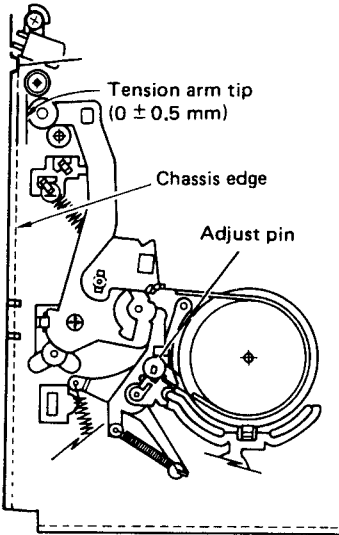
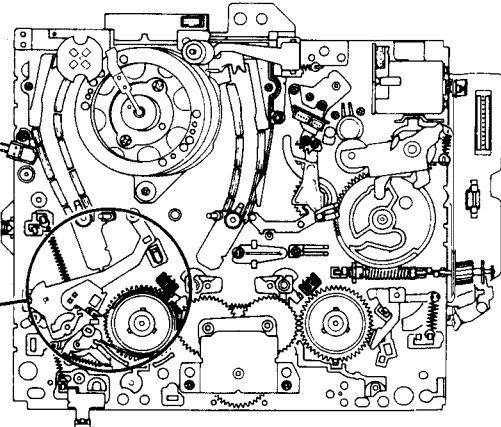
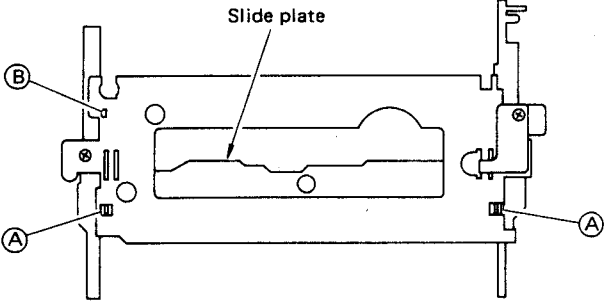
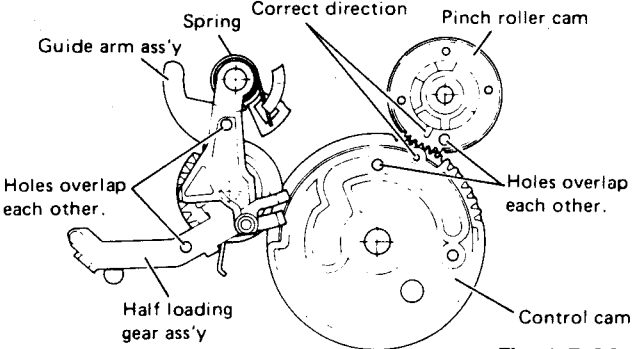
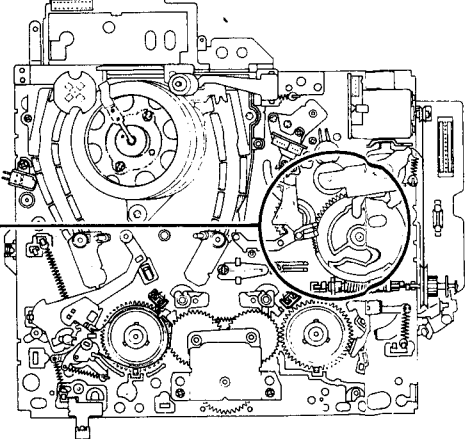
No.	Item	Checkpoints	Adjustment and Checks
	PB switching point •Symptom: switching noise at picture bottom. 	VIDEO OUT or TP110 (Video board)	1) Connect VCR to AC. Turn power on. 2) Connect an oscilloscope to VIDEO OUT or TP110. 3) Insert the MH-1 alignment tape to the cassette housing. Play back the stairstep segment of MH-1 alignment tape. 4) Trigger the oscilloscope externally (– slope) with the signal from TP11 (DRUM FF) of the VIDEO board. 5) Adjust R427 to position the trigger point $6.5 H \pm 0.5 H$ from V. sync as shown in Fig. 1-5-7.
2	Lower drum assembly •Symptoms: Poor FM linearity, noisy rotation, jitter •Cause: Lead and bearing wear	Check FM linearity and switching point. Check control head phase (X value) Symptom: tracking error PB FM: VIDEO board TP6 FF: VIDEO I board TP11	See above upper drum assembly items. 1) Play stairstep signals of MH-2 and MH-2L Alignment Tapes. Engage the Tracking Preset mode by pressing the + and – buttons simultaneously in the onscreen mode. Confirm that the same maximum FM waveform level is obtained as when the tracking is adjusted manually. 2) Refer to the A/C head adjustments.
3	Replacing Drum stator Assy *It is possible to replace the drum stator Assy only. The symptom of drum stator Assy trouble . 1)The circuit protector on the servo circuit goes open. 2)Does not rotate Drum at all. 3)Drum rotation goes run away. 4)Can not obtain Drum FG pulse. 5)Unstable drum rotation. The replacement must be decide after other electric circuit check up.	*The drum rotator equips magnet,so magnetic force will be occur during disassembl.	1)Take out drum assembly from main chassis. 2)Remove two screws on rotor Assy. (See fig 1-5-8) 

Fig 1-5-8

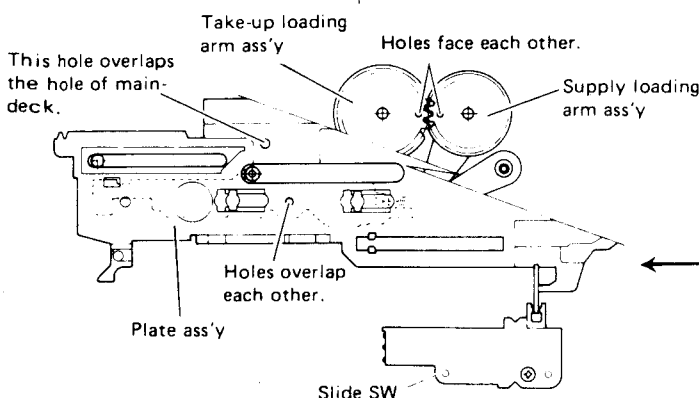
No.	Item	Checkpoints	Adjustment and Checks
		*The collar and drum shaft must keep mechanical phase,so do not loosen set screws on collar. 7)Confirm PB switching point and FM audio switching point, adjust if necessary.	3) Lift rotor and take off.  Stator PWB Assy Fig 1-5-9 4)Remove three screws on stator. (See fig 1-5-9) 5)Take out stator PWB Assy.  Fig 1-5-10 6)When installing the stator and rotator,be sure to align the phase adjust hole,then tighten the screws.

No.	Item	Checkpoints	Adjustment and Checks	
4	A/C head			
	 Fig. 1-5-11 Temporary height  Fig. 1-5-12 Inclination/Azimuth/ Height adj.	 Fig. 1-5-13 A/C HEAD position	Temporarily set height as indicated in Fig. 1-5-11 Tilt (forward inclination) See Fig. 1-5-12 (Symptom: audio level varies greatly.) Azimuth See Fig. 1-5-12 (Symptoms: audio low level or noisy) Audio output: AUDIO OUT Height See Figs. 1-5-14 and 1-5-15. (Symptom: low audio and control signal levels) FM linearity Control head phase See Fig. 1-5-15 PB FM: Video board TP6 FF: Video board TP11	Set the height as indicated in Fig. 1-5-11 to facilitate tape transport checks and adjustments. 1) Run tape, turn screw ① counterclockwise to where slight curling of the tape occurs at the lower flange of the take-up guide roller. 2) Then slowly turn the screw clockwise to where the curling ceases. 1) Set front panel AUDIO MONITOR selector to Normal and play stairstep signal (with audio 7 kHz) of the MH-1 Alignment Tape. Observe audio output signal with oscilloscope. 2) Turn screw ② and adjust for maximum audio output level. 1) Run tape and observe the control head area. 2) Turn screws ①, ② and ③ by small and equal amounts until 0.1 to 0.2 mm of the head core bottom can be seen. Note: If difficult to observe, play stairstep signal of MH-1 Alignment Tape and adjust for maximum audio output and control pulse level. Refer to upper drum assembly items If adjustment is major, again check the azimuth. 1) Play stairstep signal of MH-1 Alignment Tape and observe the FM waveform. Set for Tracking Preset by pressing the + and - buttons simultaneously. 2) Loosen screws ④ and ⑤. Set the A/C head positioning tool on screw ④, with the stud inserted into the nearby oblong hole. 3) Turn the tool first to position the A/C head
	 Fig. 1-5-14 Height Adj  Fig. 1-5-15 CTL head phase			

No.	Item	Checkpoints	Adjustment and Checks
	 Fig. 1-5-16 CTL head phase Note: Trigger the oscilloscope externally signal from TP11 (DRUM FF). Use (+) trigger for MH-1 and MH-1L alignment tape. Narrow head is employed for this model.	LP auto tracking adjustment	fully toward the capstan. Then gradually return it toward the drum and stop at the position of maximum FM waveform output level as shown in Fig. 1-5-16 4) Tighten screw ⑤. Remove the tool and tighten screw ④. 5) Play staircase signal of MH-1L Alignment Tape and confirm maximum FM waveform output level as shown in Fig. 1-5-16 6) If not maximum, slightly loosen screws ④ and ⑤. Use the tool and adjust the head position for the nearest maximum point. Then tighten screws ④ and ⑤. Note: If the Alignment Tape ejects automatically, repeat the control head phase adjustment.
5	Tension arm assembly Tension band assembly  Fig. 1-5-18	Tension pole position See Fig. 1-5-14. (Symptom: poor FM waveform response)	 Fig. 1-5-17 Tension arm position 1) Remove video cassette tape and set for the playback mode as following steps. 2) Disconnect VCR from AC. Slightly rotates the loading motor counterclockwise by hand, then press the lock level portion ① of the

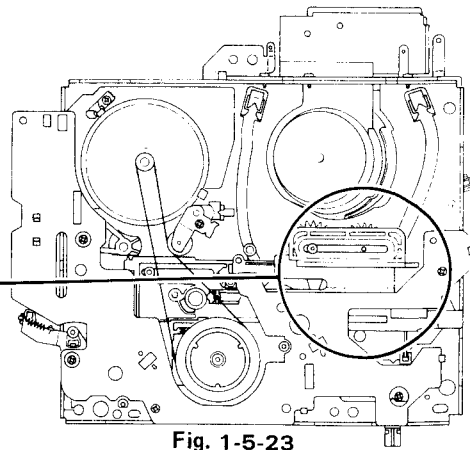
No.	Item	Checkpoints	Adjustment and Checks
	 Fig. 1-5-19 Cassette housing	Back tension (Symptom: skew)	cassette housing by hand as shown in Fig. 1-5-19. 3) Move the raised portion of the cassette housing slide plate to fully forward by hand with loading motor. At this time, again press the lock level portion (B) of the cassette housing slide plate to lower the cassette housing (internal holder of the cassette housing is locked in lowered position). 4) Cover the cassette LED with opaque material (insulated tape with black). 5) Connect VCR to AC. Press the power button on the Front panel and set for the playback mode. 6) Turn the eccentric adjust pin to align the edge of the chassis with the tension arm tip as shown in Fig. 1-5-18.
6	Pinch roller cam Control cam Half loading gear assembly Guide arm assembly  Fig. 1-5-20 Control/Pinch roller cam	Important: Do not remove or disturb parts other than those mentioned. See Fig. 1-5-20	Set mechanism to Eject mode internal holder of the cassette housing is locked in raised) position.  Fig. 1-5-21 Control cam position 1) When installing the pinch roller cam, overlap the largest hole of the gear portion with the hole of the deck. 2) Set the control cam on the deck with the hole of the groove overlapped with the hole of the deck. Observe that the small hole of the control cam and the ridge of the pinch roller cam are aligned. (If the control cam does not fit readily, shift

No.	Item	Checkpoints	Adjustment and Checks
			the rear plate assembly within the range of play.) 3) Install the half loading gear assembly with the hole overlapped with the hole of the deck. Secure with E-ring. 4) Install the guide assembly over the spring and with the hole overlapping that of the deck. Engage the spring correctly.
		Cassette housing assembly	Install the cassette housing assembly with the mechanism in the Eject mode. Also observe that the inner holder of the housing is raised and locked.
7	Clutch assembly	Take-up torque (Symptom: inadequate take-up torque)	1) Remove cassette housing and set for play-back mode (see Section 1.2). 2) Set torque gauge on the take-up reel disk. Gradually relax your grip on the gauge and read the needle indication at the point the gauge begins to rotate with the disk. Confirm indication of 60 to 100.
8	Take-up loading arm assembly Supply loading arm assembly Plate assembly		Note: • Set mechanism to the Eject or Stop mode before removing these parts. • The flange of the plastic rivet securing the loading arm assembly and the pole base assembly can be damaged by attempting to remove it directly. Press the loading arm assembly firmly to prevent motion. Then use a narrow-shafted tool to press the rivet from the shaft end to remove it.
		Mounting position alignment • Remove the tension arm assembly to facilitate operation. See Fig. 1-5-22	1) Set the supply and take-up loading arm assemblies so that the holes of the gear portions are aligned, then secure to the pole base assemblies with rivets. 2) Shift the plate assembly and install with the holes of the upper and lower components overlapped.
		Slide switch See Fig. 1-5-22	Be sure to engage the slide switch slider with the edge of the plate assembly.



This diagram illustrates the assembly of the take-up loading arm. It shows the 'Take-up loading arm ass'y' and 'Supply loading arm ass'y' being aligned. Labels indicate: 'This hole overlaps the hole of main-deck.', 'Holes face each other.', 'Holes overlap each other.', 'Plate ass'y', and 'Slide SW'.

Fig. 1-5-22



This diagram shows the 'T.S. Loading arm position' within the main deck assembly. A circle highlights the specific area where the loading arm assembly is installed.

Fig. 1-5-23
T.S. Loading arm position

SECTION 2 ELECTRICAL ADJUSTMENTS

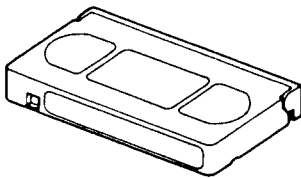
2.1 PREPARATION

Electrical adjustments are required after replacing circuit components and certain mechanical parts.

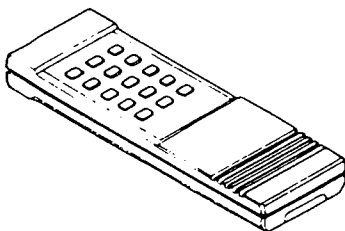
It is important to perform these adjustments only after all repairs and replacements has been completed. Also, do not attempt these adjustments unless the proper equipment is available.

2.1.1 Required test equipment

1. Color television monitor.
2. Oscilloscope: wide-band, dual trace, triggered delayed sweep
3. Frequency counter
4. Audio oscillator
5. Digital voltmeter
6. Audio voltmeter
7. Signal generator: RF/IF sweep/marker
8. Signal generator: NTSC color bar, staircase, multi burst, sweep signal.
9. Distortion meter
10. Recording tape
11. Alignment tapes
(MH-1 MH-1L MH-F1)



12. Presetting unit (PTU94008)



※presetting unit equips with "A"-remote control code only.

13. RCA-S adaptor (PTU93001A)

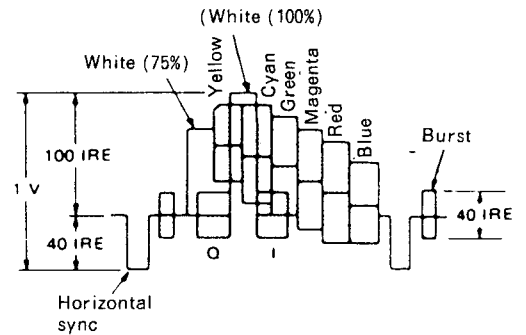
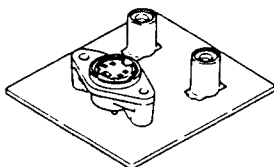


Fig 2-1-1 Color bar signal waveform

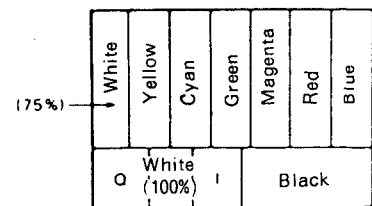


Fig 2-1-2 Color bar pattern

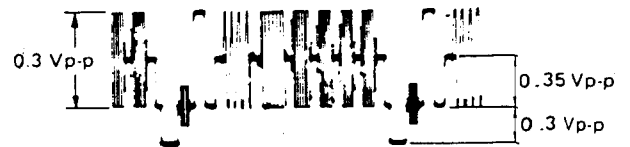


Fig2-1-3 multi burst signal

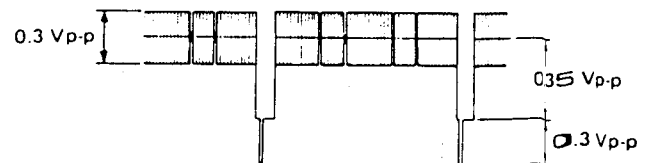


Fig2-1-4 Video sweep signal

2.1.2 Check and adjustment steps

The check and adjustment steps are provided the following in the form charts. For clarity, the nomenclature used in the charts is outlined below.

No.	Check and adjustments are numbered in the recommended sequence in which they are to be performed.
Item	Name assigned to the particular check and adjustment step.
Check point	Location to which measuring instrument (oscilloscope unless otherwise noted) is to be connected.
Adjustment Parts	Variable component (resistor, capacitor, etc) to be adjusted in this step. Dash (—) indicates check only.
Signal & Mode	● Input signal required to perform adjustment. Dash (—) indicate that special signal is not required. ● Equipment operating mode at time of check or adjustment.
● Color bars	Color bar signal as video input.
● Stairstep	Stairstep signal as video input.
● 1 KHz	1 kHz sinewave as audio input signal.
● MH-1 color bars	Color bar segment of MH-1 alignment tape.
● MH-1 stairstep	Stairstep segment of MH-1 alignment tape.
● MH-1 1 KHz	1 KHz Audio signal segment of MH-1 alignment tape.
● MH-1L color bars	color bar segment of MH-1L alignment tape.
● MH-1L stairstep	Stairstep segment of MH-1L alignment tape.
● MH-F1 stairstep	Stairstep segment of MH-F1 alignment tape.
● MH-F1 1 KHz	1 KHz FM Audio signal segment of MH-F1 alignment tape.
● E-E	Power on and machine in Stop mode.
● REC	Recording mode
● PB	Playback mode
● SLOW	Slow motion playback mode
● STILL	Pause during playback mode
● A DUB	Audio dubbing mode
● SP mode	SP recording speed
● EP mode	EP recording speed
Description	This column provides an explanation of the step, notes and adjustment values, and reference to waveforms where applicable.

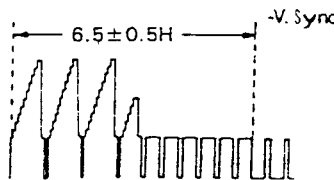
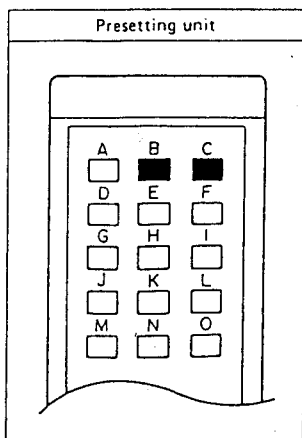
2.2 SWITCHING REGULATOR

Note: Unless otherwise specified, all test points and adjustments are located on the Switching REG board.

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
1	5V Output	●REC	●TUNER ●SP	●TPSW5V ●TP·GND	● R36 (SW 5V Adj)	1) Set the unit to recording mode. 2) Connect a voltmeter to TP SW5V and ground. 3) Adjust R36 to obtain $5.40V \pm 0.05V$
2	Frequency Check.	●REC	●TUNER ●SP	●D14 anode		1) Set the unit to recording mode. 2) Connect a frequency counter to D14 anode side on the regulator board. 3) confirm the frequency $55KHz \pm 15KHz$

2.3 SERVO

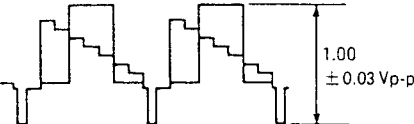
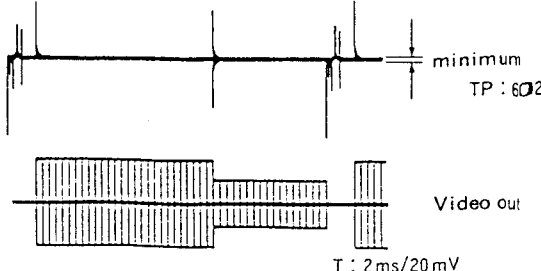
Note: Unless otherwise specified, all test points and adjustments are located on the A/S/M board.

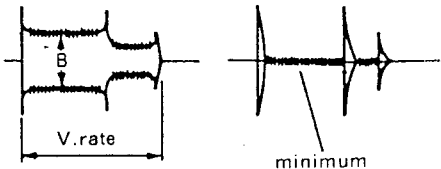
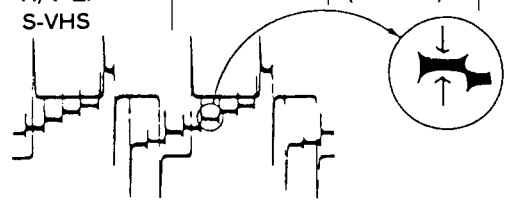
No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
1	PB switching point	●PB	●MH-1 stairstep ●Trigger slope (—)	●VIDEO OUT	●R427 (SW. P)	1) Connect an oscilloscope to video out. 2) Play back the MH-1 alignment tape stairstep segment. 3) Adjust R427 to obtain switching point $6.5H \pm 0.5H$ from V.sync as shown in Fig2-3-1  Fig2-3-1 PB swiching point
2	SP slow tracking.	●REC then PB	●SP	●TV monitor	●Presetting unit (PTU94008)	1) Record a color signal in the SP mode. 2) Playback the recorded tape, forward and reverse direction on slow mode. Press the presetting unit "B" and "C" button to get minimum jitter during slow playback. 3) Set the unit to stop mode once time for confirmation. Then press the play button, and play back forward/reverse direction on slow mode. Confirm minimum noise bar during slow playback both direction.  Fig2-3-2 Pre setting unit

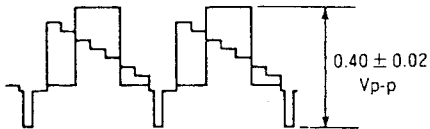
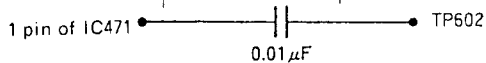
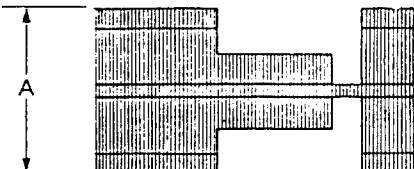
No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
3	EP slow tracking	● REC then PB	● EP	● TV monitor	● presetting unit (PTU94008)	1) In the same manner as above, SP mode

2.4 VIDEO CIRCUIT

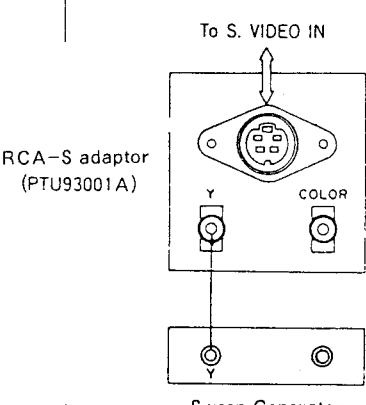
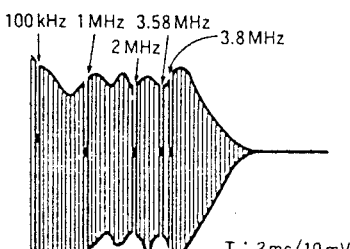
Note: Unless otherwise specified, all test points and adjustments are located on the VIDEO board.

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
1	AGC level adjustment	● EE	● Color bar ● S-input ● S-VHS ● SP	● TP110 ● TP900 ● TPGND	● R956 (AGC LEVEL1) ● R32 (AGC LEVEL2)	1) Connect the oscilloscope to TP110 (Y OUT) , Apply a color bar signal to S-connector. 2) Short the TP900 and TPGND. Rotate the R956 fully clockwise on foil side. 3) Adjust R32 to obtain $1.00V \pm 0.03V$ p-p video signal at TP110. 4) Open the short jumper between TP900 and TP GND. Adjust R956 to obtain $1.00V \pm 0.03V$ p-p video signal at TP110.
 Fig2-4-1 AGC LEVEL						
2	EE level adjustment	● EE	● Color bar ● S-input ● S-VHS ● SP	● TP110	● R212 (EE LEVEL)	1) Connect the oscilloscope to TP110 (Y OUT) , Apply a color bar signal to external input. 2) Adjust R212 to obtain $1.00V \pm 0.03V$ p-p video signal at TP110.
 Fig2-4-2 E-E LEVEL						
3	YNR NC BALANCE	● PB	● MH-1L Color bar ● VHS mode ● EP ● Auto tracking ● OFF ● EP	● TP602	● R416 (NC BAL)	1) Connect the oscilloscope to TP602. 2) Playback the alignment tape MH-1L color bar section. 3) Adjust R416 to set the minimum noise position as shown Fig2-4-3.
 Fig2-4-3 YNR NC BAL						

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
4	CNR NC BALANCE	●PB	●MH-1 Color bar ●VHS mode ●SP ●Auto tracking OFF	●TP604	●R402 (CNR NC BAL) ●R646 (CNR NC BAL)	1) Connect the oscilloscope to TP604. 2) Playback the alignment tape MH-1 color bar section. 3) Adjust R402 and R646 alternately to obtain minimum carrier level as shown Fig2-4-4
						 Fig2-4-4 CNR NC BAL
5	OH-1H color comb	●EE	●Multiburst ●External video input (A/V) ●S-VHS	●TP36 ●TP32 ●TP SW5V	●R229 (OH-1H COL COMB) ●R264 (OH-1H COL COMB)	1) Apply multiburst signal to video input. 2) Connect the oscilloscope to TP36. 3) Connect the jumpwire TP32 and TP SW5V. 4) Adjust R229 and R264 alternately to obtain minimum carrier level.
						 T : 20 μs/10 mV Fig2-4-5 OH-1H COL. COMB
6	1H-2H Color comb	●EE	●Multiburst ●External video input (A/V) ●S-VHS	●TP32 ●TP GND	●R243 (1H-2H COL COMB) ●R265 (1H-2H COL COMB)	Note: OH-1H color comb adjustment has been finished. 1) Connect the TP32 and TP GND. 2) Adjust R243 and R265 alternately as same as above. 3) Disconnect the TP32 and TP GND jumpwire, Adjust the R243 and R265 as same manner.
7	Y-comb adjust	●EE	●Color bar external video input A/V EP S-VHS	●TP504	●R261 (Y COMB) ●R270 (Y COMB)	1) Connect oscilloscope to TP504, Apply color bar signal to external video input (A/V) . 2) Adjust R261 and R270 alternately to obtain minimum color level at magenta portion of color bar.
			 Fig2-4-6 Y-COMB			

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
8	Processor Input Level	● EE	● Color bar ● External video input (A/V) ● SP ● S-VHS	● TP503	● R428 (P IN LEVEL)	1) Connect oscilloscope to TP503, Apply color bar signal to external video input (A/V) . 2) Adjust R428 to obtain 0.40 ± 0.02 v p-p.  Fig2-4-7 P.IN.LEVEL
9	Color Comb Gain	● EE	● Color bar ● S-External video input ● SP ● S-VHS	● TP601 ● TP603 ● TP GND	● R621 (COL COMB GAIN)	1) Apply a color bar signal to S-video input, Connect the oscilloscope to TP601. 2) Adjust the R621 to obtain same level as open and close TP603 with TP GND.
10	Color Comb Phase	● PB	● MH-1 Color bar	● TP602 ● TV-MONITOR ● IC471-1 (A FF)	● L601 (COL. COMB PHASE)	Note: This adjustment needs to connect a capacitor (0.01μF) between TP602 and 1 pin of IC473. 1) Terminate S-video output 75 Ω by TV monitor. 2) Playback MH-1 color bar portion. Connect 0.01 μF capacitor between 1 pin of IC471 and TP602. 3) Adjust the L601 to obtain all color bar picture get same color ,especially applied impulse area.  Fig2-4-8 COL. COMB PHASE ADJ.
11	Rec Color Level (SP)	● PB	● MH-1 ● Color bar ● Auto Tracking OFF	● TP6 ● TP11	● R44 PRE/REC (REC COL)	1) Connect an oscilloscope to TP6. Play back the MH-1 alignment tape color bar portion. 2) Adjust tracking button for maximum color level, make a note of the higher color level "A". (see Fig2-4-9) 3) Set the blank tape and record a color bar signal SP mode. 4) Play back recorded color bar signal. Confirm more than 100% noted color level "A". 5) If necessary, before recording, adjust R44 so that play back color level becomes more than 100% noted color level "A". In the same time confirm channel balance within 4dB. Note: Refer only for higher level channel. Repeat the above step 3) ~5) several times.  Fig2-4-9 REC COL. LEVEL.

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
12	Rec Color Level (EP)	●PB	●MH-1L Color bar ●Auto tracking OFF	●TP6 ●TP11	●R45 PRE/REC (REC COL)	1) Connect an oscilloscope to TP6. Play back the MH-1L alignment tape color bar portion. 2) Adjust tracking button for maximum color level, make a note of the higher level "A". (see Fig2-4-9) 3) Set the blank tape and record a color bar signal EP mode. 4) Play back recorded color bar signal. Confirm more than 100% noted color level "A". 5) If necessary, before recording, adjust R45 so that play back color level becomes more than 100% ($140 \pm 5\%$) noted color level "A". In the same time confirm channel balance within 4dB. Note: Refer only for higher level channel. Repeat the above step 3)~5) several times.
13	PB Y Level (VHS)	●REC then PB	●Color bar ●S-External video input ●VHS ●SP ●Auto tracking OFF	●TP110	●R456 (Y LEVEL)	1) Apply color bar signal to S-input terminal. 2) Terminate S-video output 75Ω by TV monitor. Connect the oscilloscope to TP110. 3) Record the color bar signal VHS SP mode then playback. 4) Adjust R456 to obtain 1.0V p-p video signal.
14	PB Y Level (S-VHS)	●REC then PB	●Color bar ●S-External video input ●S-VHS ●SP ●Auto tracking OFF	●TP110	●R454 (PB LEVEL)	1) Apply color bar signal to S-input terminal. 2) Terminate S-video output 75Ω by TV monitor. Connect the oscilloscope to TP110. 3) Record the color bar signal S-VHS SP mode then playback. 4) Adjust R454 to obtain $1.00V \pm 0.03V$ p-p video signal.

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
15	Frequency Response & Channel Balance (SP)	●REC then PB	●Sweep signal (no color burst) ●S-External input ●S-VHS ●SP ●DUB mode	●TP110	●R56 PRE/REC (SP FREQ)	1) Connect the TV-monitor to S-video output and terminate 75 Ω . 2) Apply video sweep signal to S-video input, and record SP mode. 3) Connect the oscilloscope to TP110, and playback the pre-recorded video sweep signal. 4) Adjust R56 so that 100KHz marker level to 3.58MHz marker level becomes $-2\text{dB} \pm 0.5\text{dB}$. (In the case of 100KHz marker level is for 3 scale divisions on the oscilloscope, Set the 3.58MHz marker level to 2.2~2.8 scale divisions.) 5) Confirm the channel balance within 2dB.
 RCA-S adaptor (PTU93001A) Sweep Generator Fig2-4-10 Connection  Fig2-4-11 Sweep signal						
16	Frequency response (EP)	●REC then PB	●Sweep signal (no color burst) ●S-External input ●S-VHS ●EP ●DUB mode	●TP110	●R58 PRE/REC (EP FREQ)	1) Connect the TV-monitor to S-video output and terminate 75 Ω . 2) Apply video sweep signal to S-video input, and record EP mode. 3) Connect the oscilloscope to TP110, and playback the pre-recorded video sweep signal. 4) Adjust R58 so that 100KHz marker level to 3.58MHz marker level becomes $-3\text{dB} \pm 0.5\text{dB}$. (In the case of 100KHz marker level is for 3 scale divisions on the oscilloscope, Set the 3.58MHz marker level to 2.0~2.3 scale divisions.)

2.5 ON SCREEN CIRCUIT

Note: Unless otherwise specified, all test points and adjustments are located on the VIDEO board.

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
1	Dot clock adjust	●EE	●Menu	●TP901 ●TV monitor	●C921 (Dot clock)	1) Connect the frequency counter to TP901. 2) Short 3 pin of IC902 to GND and 30 pin of IC902 to VCC (5V). 3) Adjust C921 to obtain 7.70MHz $\pm 0.05\text{MHz}$.
2	Color burst clock	●EE	●Menu	●TP902	●C913 (COL. Burst)	1) Connect the frequency counter to TP902. 2) Adjust the C913 for 14.31818MHz $\pm 0.00015\text{MHz}$.

2.6 AUDIO CIRCUIT

Note: Unless otherwise specified, all test points and adjustments are located on the A/S/M board.

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
1	Bias level	● REC	● EP/SP, ● No audio ● REC,	● TP31 (+) ● TP32 (-)	● R239 (Bias Adj)	1) Connect the milivoltmeter to TP31 and TP32. 2) Set for the REC mode without audio input. 3) Adjust R239 to obtain 3.0mVrms during EP mode. 4) Confirm $2.8 \pm 0.2\text{mVrms}$ during SP mode.
2	Carrier Frequency	● EE	● external input ● No audio ● SP ● mode	● TP51 (Lch) ● TP52 (Rch)	● R54 (fo (L)) ● R65 (fo (R))	1) Connect frequency counter to TP51. 2) Adjust R54 for $1.300 \pm 0.005\text{MHz}$. 3) Connect frequency counter to TP52. 4) Adjust R65 for $1.700 \pm 0.005\text{MHz}$.
3	PB level	● PB	● MH-F1 ● 1KHz PB ● SP ● Auto tracking OFF	● Audio output	● R49 (dev (L)) ● R70 (dev (R))	1) Playback the MH-F1 alignment tape 1KHz portion. 2) Connect the Audio meter to audio output. 3) Adjust R49 (L ch) and R70 (R ch) to obtain $-8.0 \pm 0.5\text{dB}$ both channel.
4	REC FM level	● REC then PB	● No audio input ● S-VHS mode ● EP ● Auto tracking OFF	● TP53 (PRE/REC)	● R216 PRE/REC (REC FM)	1) Record no audio input with video signal on EP mode. 2) Playback pre-recorded portion. Connect the oscilloscope to TP53 on PRE/REC PWB. 3) Adjust R216 to obtain 130 mVp-p FM audio signal as shown Fig2-6-1.

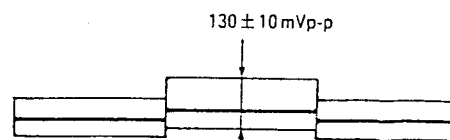


Fig2-6-1 FM AUDIO

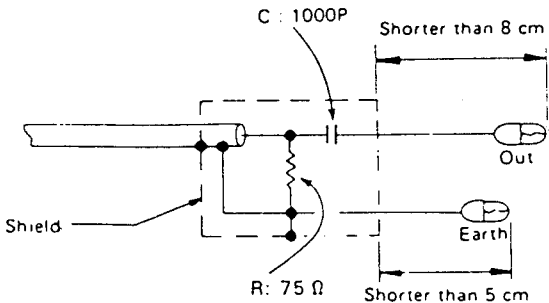
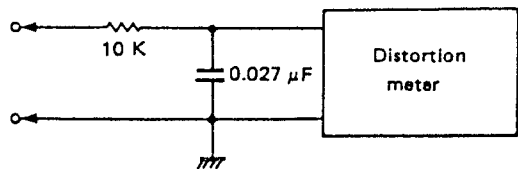
2.7 TIMER CIRCUIT

Note: Unless otherwise specified, all test points and adjustments are located on the TIMER board.

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
1	Timer Clock	● EE	● AUX	● 37 pin of IC101	● C112 (TIMER CLOCK)	1) Disconnect VCR from AC power. Then connect 18 pin of IC101 and GND. 2) Short the leads of capacitor C112 once in order to reset IC101. 3) Connect the frequency counter between 37pin of IC101 and GND. 4) Connect VCR to AC power. All FDP segments are disappear. 5) Adjust C112 for $488.2813 \pm 0.0005\mu\text{sec}$ ($2048.000 \pm 0.002\text{HZ}$).

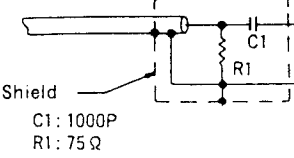
2.8 TUNER/IF CIRCUIT

Note: Unless otherwise specified, all test points and adjustments are located on the TUNER/IF board.

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
Equipment required. 1. Oscilloscope 2. Test signal generator with suitable markers (PIF,SIF,etc) 3. Test signal probe (test signal supply cable) as shown in Fig 2-8-1						
 Fig2-8-1 TEST PROBE						
1	VCO freerun frequency	●EE	●Tuner	● 17pin of IC1	●T3 (VCO)	1) Connect 1000PF capacitor between pin5 of IC1 to GND and pin6 of IC1 to GND. 2) Connect a wire pin13 of IC1 to GND for prevent the AGC function. 3) Adjust T3 for $45.55\text{MHz} \pm 20\text{KHz}$ at 17pin of IC1.
2	RF AGC adjustment	●EE	●Tuner ●TV broadcast	●IF out	●R16 (RF AGC)	1) Connect the oscilloscope to IF terminal of U/V tuner (Front end) . 2) Adjust R16 for maximum level.Then adjust R16 to reduce the IF level $-7\text{dB} \pm 1\text{dB}$ from the maximum level.
3	AFC adjustment	●EE	●Tuner ●TV broadcast	●2pin of CN2	●T2 (AFC)	1) Recive a TV broadcast. 2) Connect the oscilloscope to 2pin of CN2. 3) Adjust T2 to obtain $2.2\text{V} \pm 2.2\text{VDC}$
4	Sound Detector	●EE	●Tuner ●Test signal	● 1 pin of IC1 GND	●T1 (FM DET)	1) Recive the $1\text{kHz}, \pm 25\text{KHz}$ deviation sound test signal. 2) Connect a distortion meter to 1pin of IC1 with filter circuit as shown Fig 2-8-2 3) Adjust T1 for minimum distortion (less than 0.5%)
 Fig2-8-2 SOUND DET. ADJ.						

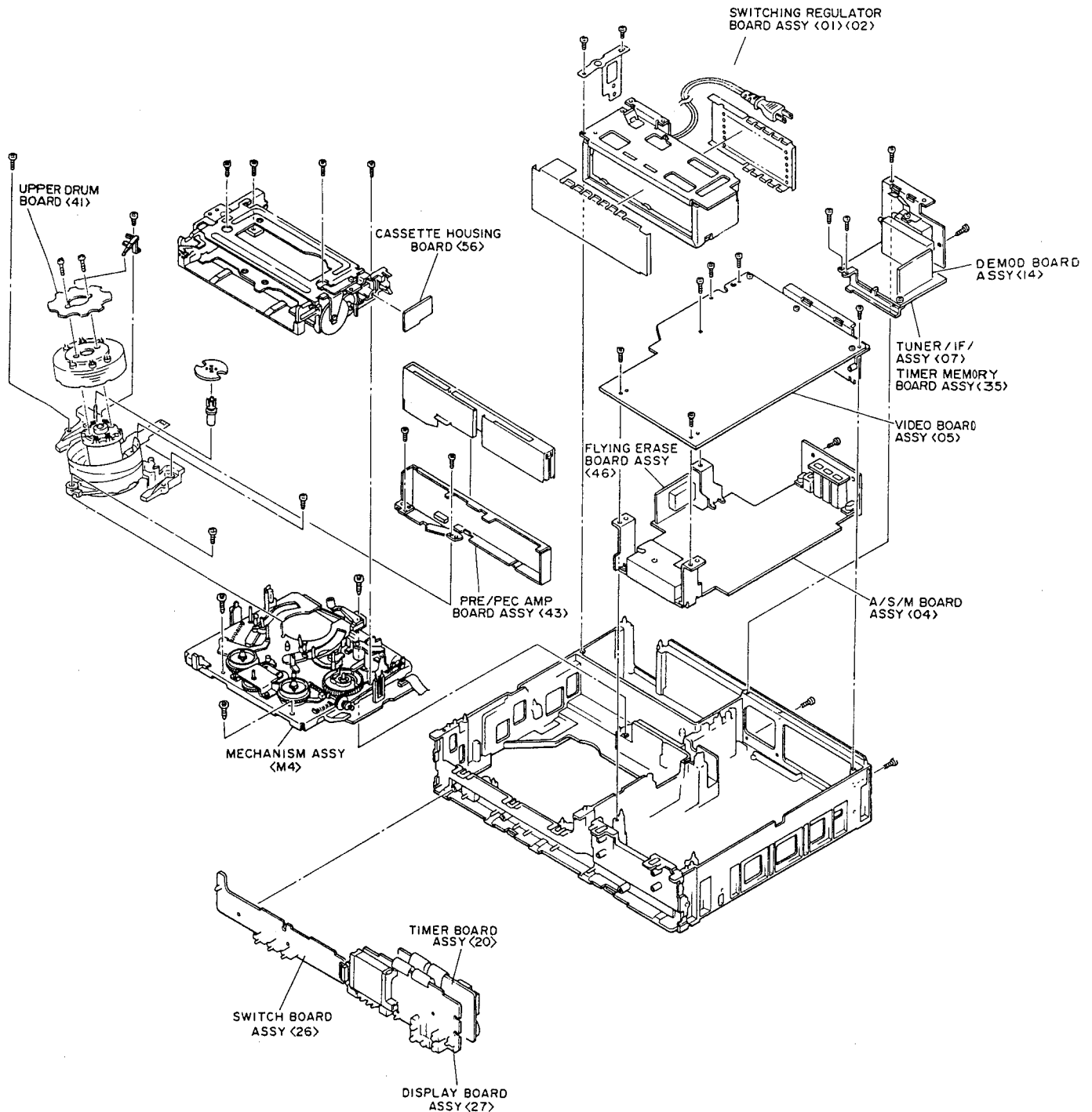
2.9 DEMODULATOR CIRCUIT

Note: Unless otherwise specified, all test points and adjustments are located on the DEMOD board.

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
Equipment required. 1. Oscilloscope 2. IF/TV test signal generator with suitable sound modulator. 3. IF/RF probe (IF/RF signal supply cable) as shown in Fig 2-9-1.						
 C1: 1000P R1: 75Ω						
Fig2-9-1 SWEEPER PROBE						
1	Stereo VCO Adjustment.	●EE	●Tuner	●36pin of IC201	●R204 (VCO ADJ)	1) Disconnect input signal. Connect the 100KΩ resistor between 10pin of IC201 and 12pin of IC201. 2) Connect the frequency counter to 36 pin of IC201. 3) Adjust R204 to obtain 15.73KHz.
2	LPF Adjust-ment	●EE	●Tuner	●17pin of IC201	●R201 (LPF ADJ)	1) Apply 15.75KHz sin wave to 11 pin of IC201. 2) Connect the oscilloscope to 17 pin of IC201. 3) Adjust the R201 to obtain minimum waveform.
3	Separation Adjustment	●EE	●Tuner	●28pin of IC201	●R202 ●R203 (SEPARATION)	1) Apply 300Hz L-only modulated IF test signal to IF input. 2) Adjust R202 for minimum output level at 28 pin of IC201. 3) Apply 5KHz L-only modulated IF test signal to IF input. 4) Adjust R203 for minimum output level at 28 pin of IC201.
4	dBx level Ballance	●EE	●Tuner	●2pin of IC2	●R247 (dBx level match)	1) Apply 300Hz SAP modulated IF test signal to IF input. 2) Connect audio level meter to 2 pin of IC2. 3) Adjust R247 to obtain 60mVrms audio level.

SECTION 3 CHARTS AND DIAGRAMS

3.1 CIRCUIT BOARD LOCATION



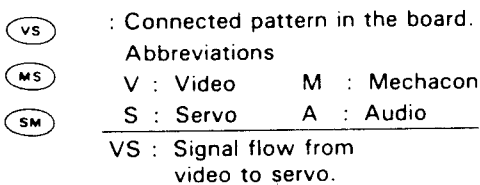
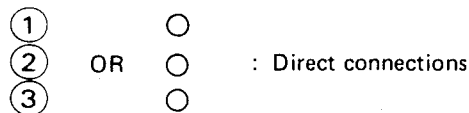
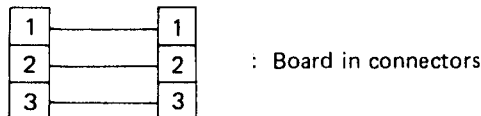
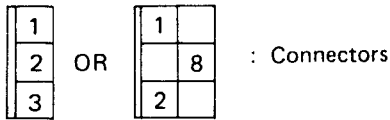
3.2 GENERAL INFORMATION

3.2.1 Connections

Note:

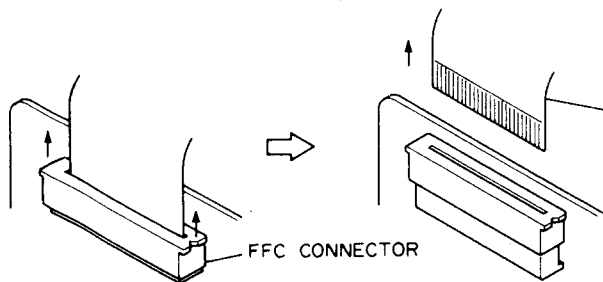
Unless otherwise specified, only signal input flow is indicated.

Connection arrows indicate only signal outputs.

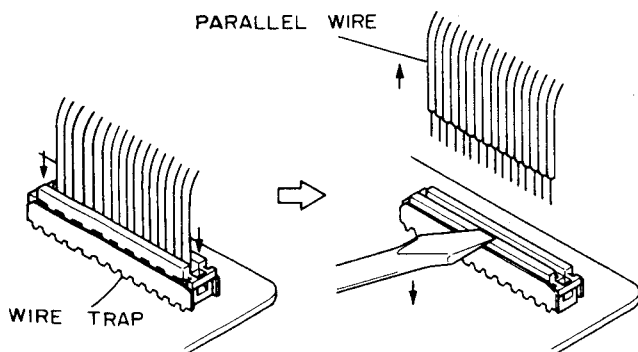


3.2.2 Disconnecting the flatwire

1. Pull the connector structure upward to release the clamp when removing or inserting the flat wire cable.

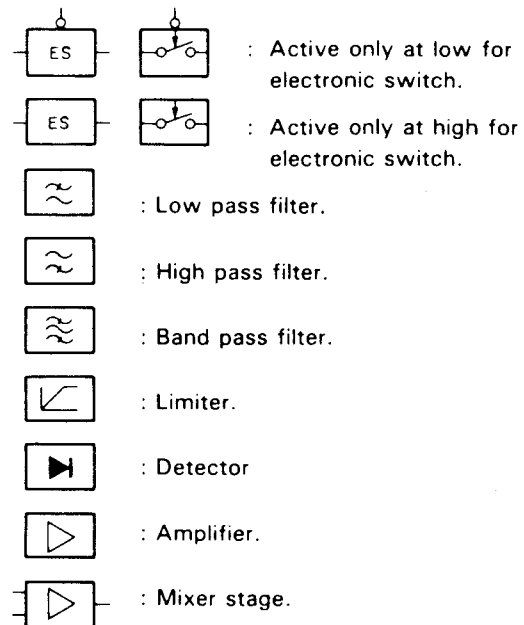


2. Depress the connector structure downward to release the clamp when removing or inserting the flat wire cable, as indicated below.



3.2.3 Indications

AUX : Active only at high.
 $\overline{\text{AUX}}$: Active only at low.
 $\overline{\text{AUX}}$: Active only at middle.
 $\overline{\text{AUX}}$: Active only at open.

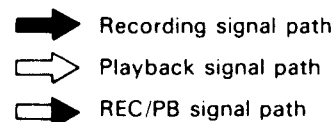


3.2.4 Schematic diagram values

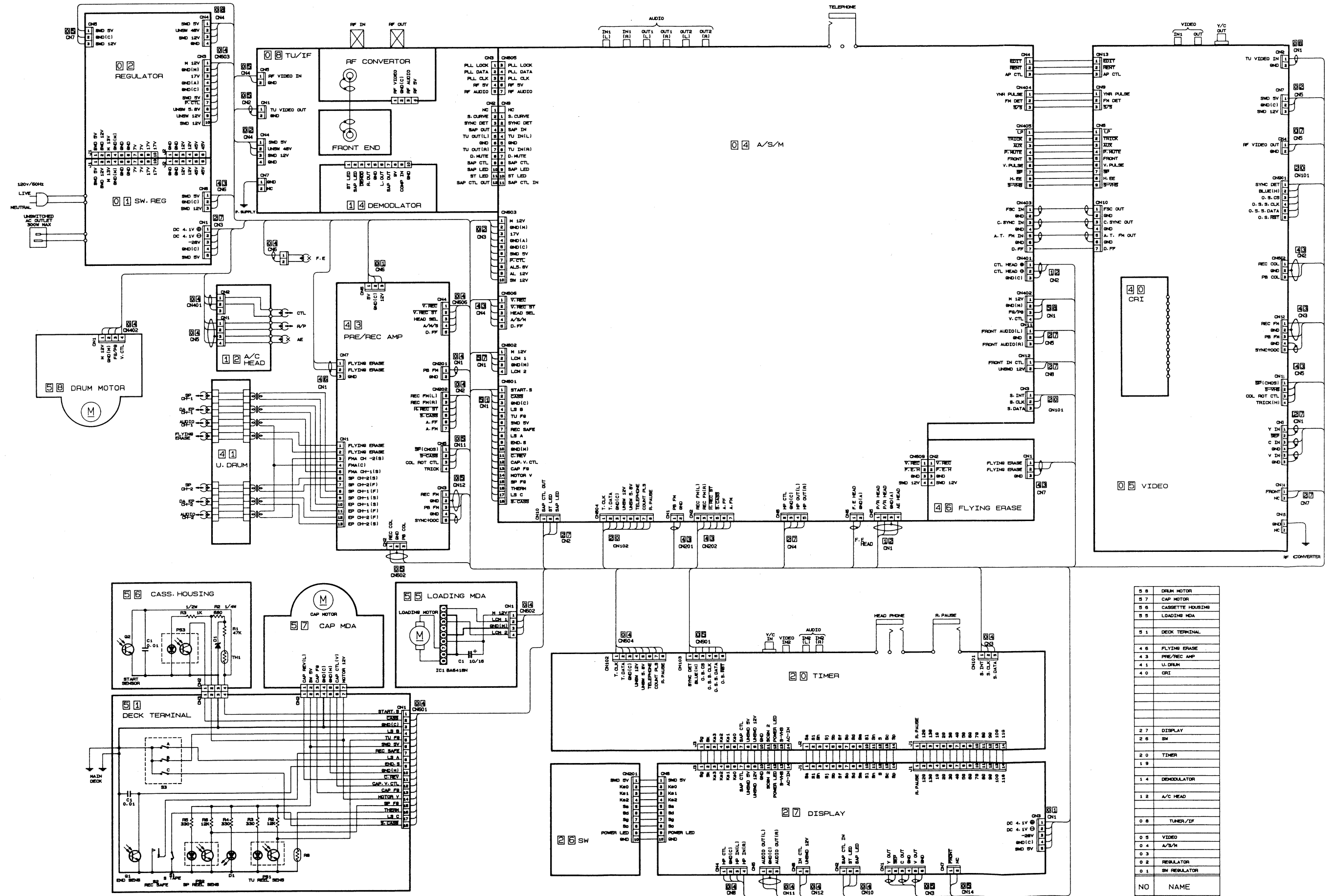
Unless otherwise specified.

1. All resistance values are in ohms, 1/6 W or 1/8 W (refer to parts list).
2. All capacitance values are in μF , (P; PF).
3. All inductance values are in μH , (m; mH).
4. All diodes are 1SS133 or MA165, (refer to parts list).
5. Voltages are DC-measured (reference to ground) with a digital voltmeter during recording (SP mode) and playback (SP mode) with alignment tape. Where voltages differ between recording and playback, the voltage during playback is shown in parenthesis.
6. Waveforms (VIDEO System) are measured (reference to ground) with a color bar during recording (SP mode) and playback (SP mode) with alignment tape.
7. Waveforms (AUDIO System) are measured (reference to ground) with 1 kHz (-8 dBs) during recording and playback with alignment tape (1 kHz).
8. Shaded () parts are critical for safety. Replace only with specified part numbers.

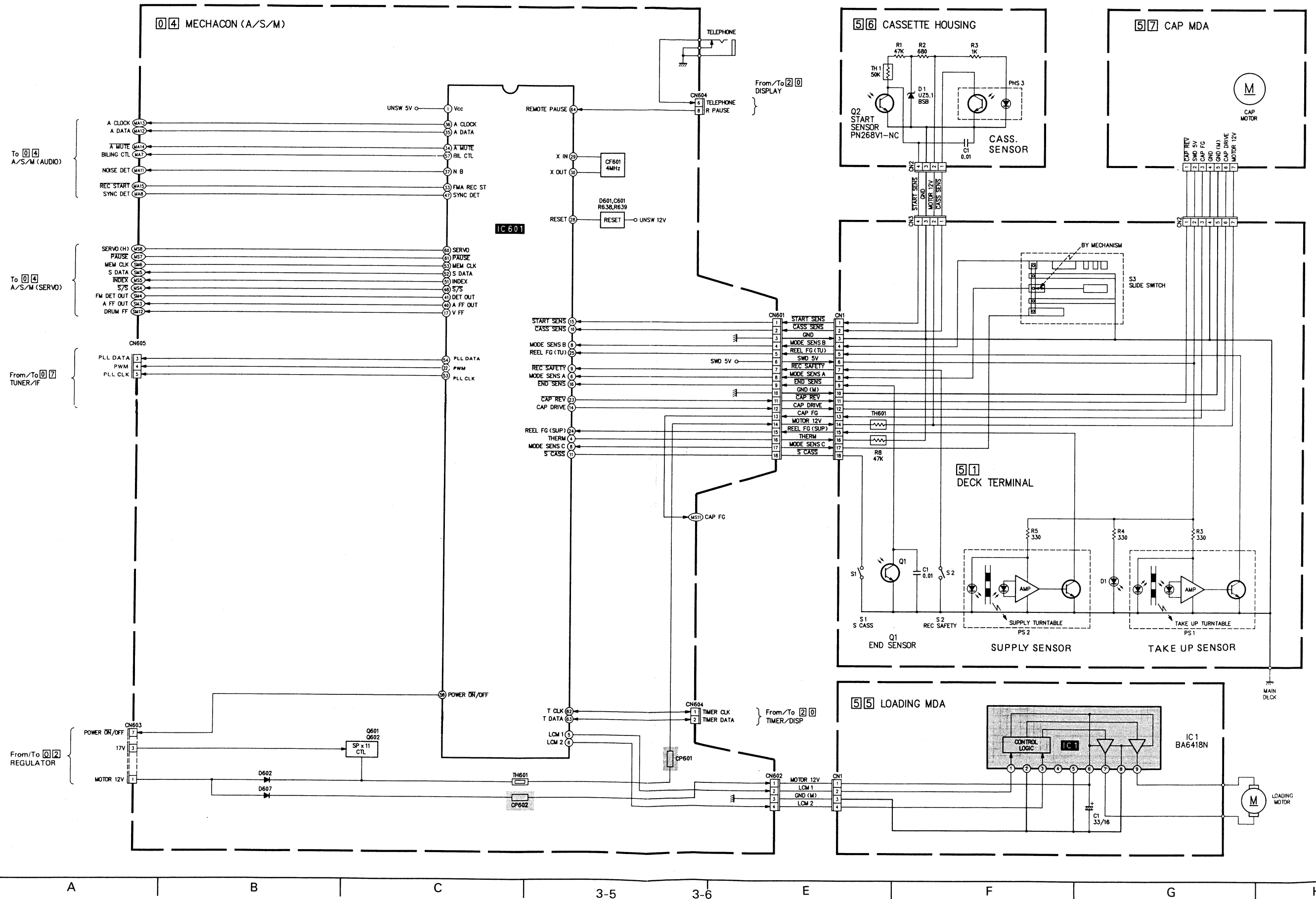
3.2.5 Signal flow in the schematic



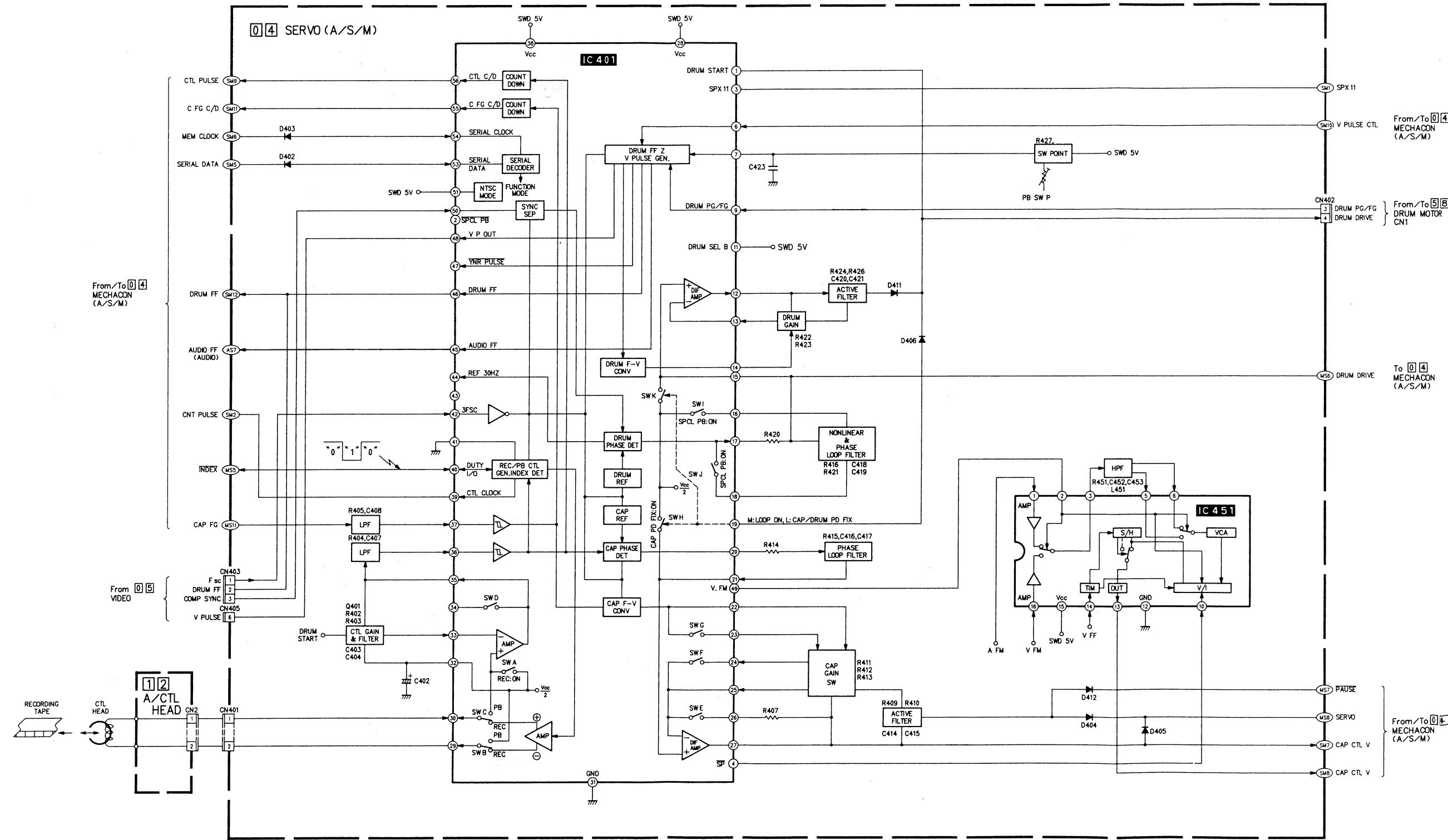
3.3 BOARD INTERCONNECTIONS



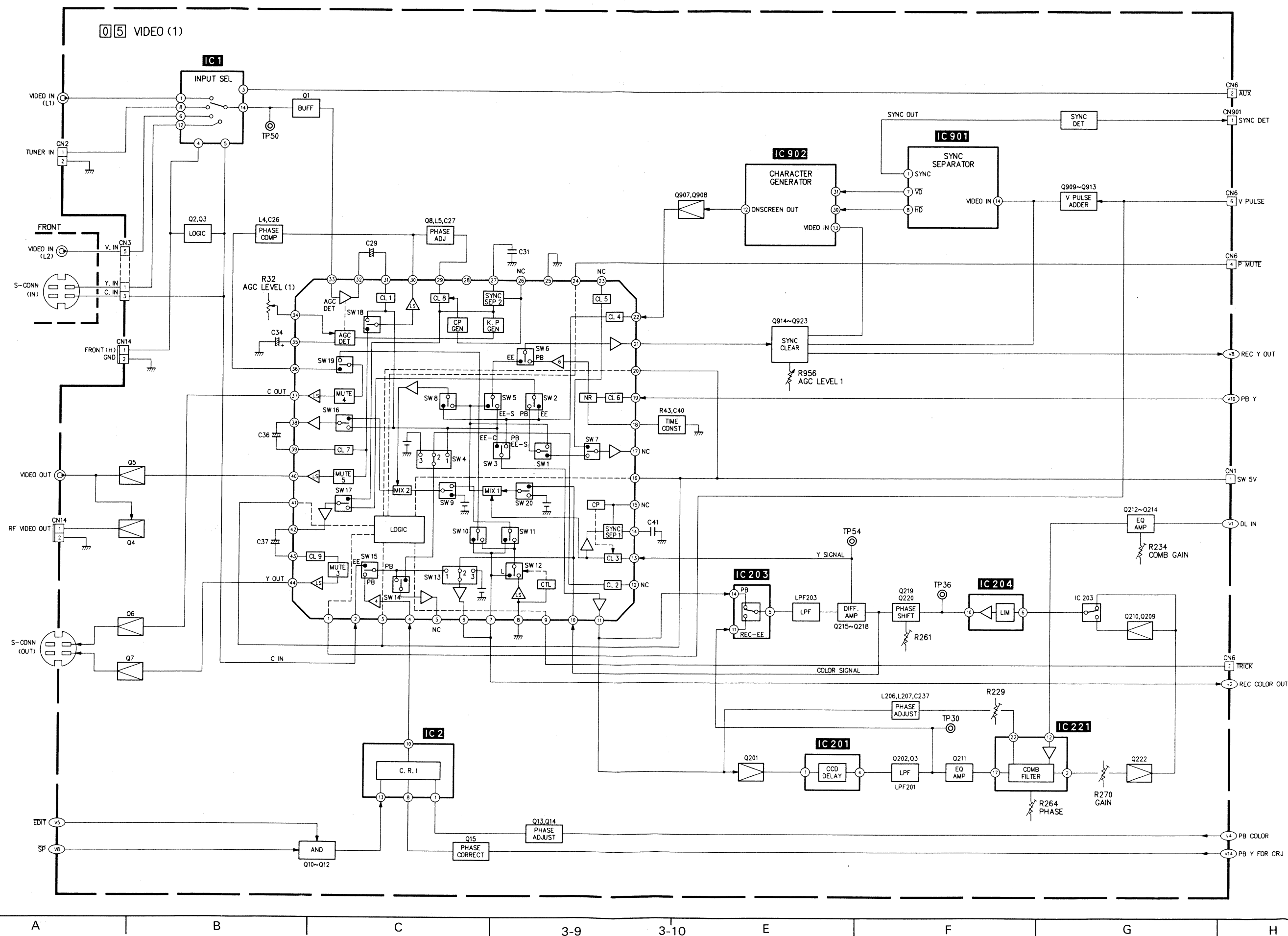
3.4 MECHANISM CONTROL BLOCK DIAGRAM



3.5 SERVO BLOCK DIAGRAM



3.6 VIDEO(1) BLOCK DIAGRAM



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3.7 VIDEO(2) BLOCK DIAGRAM

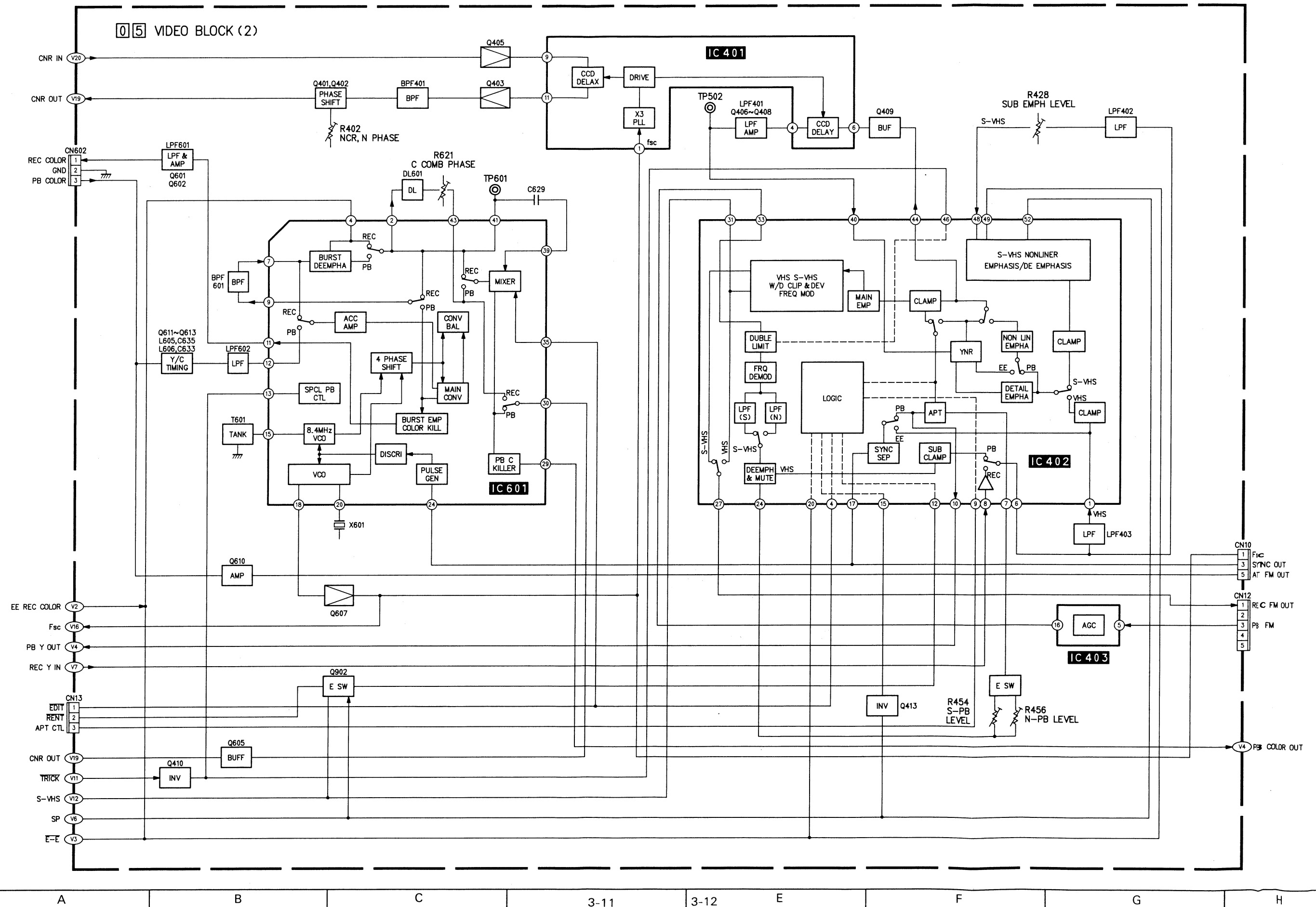
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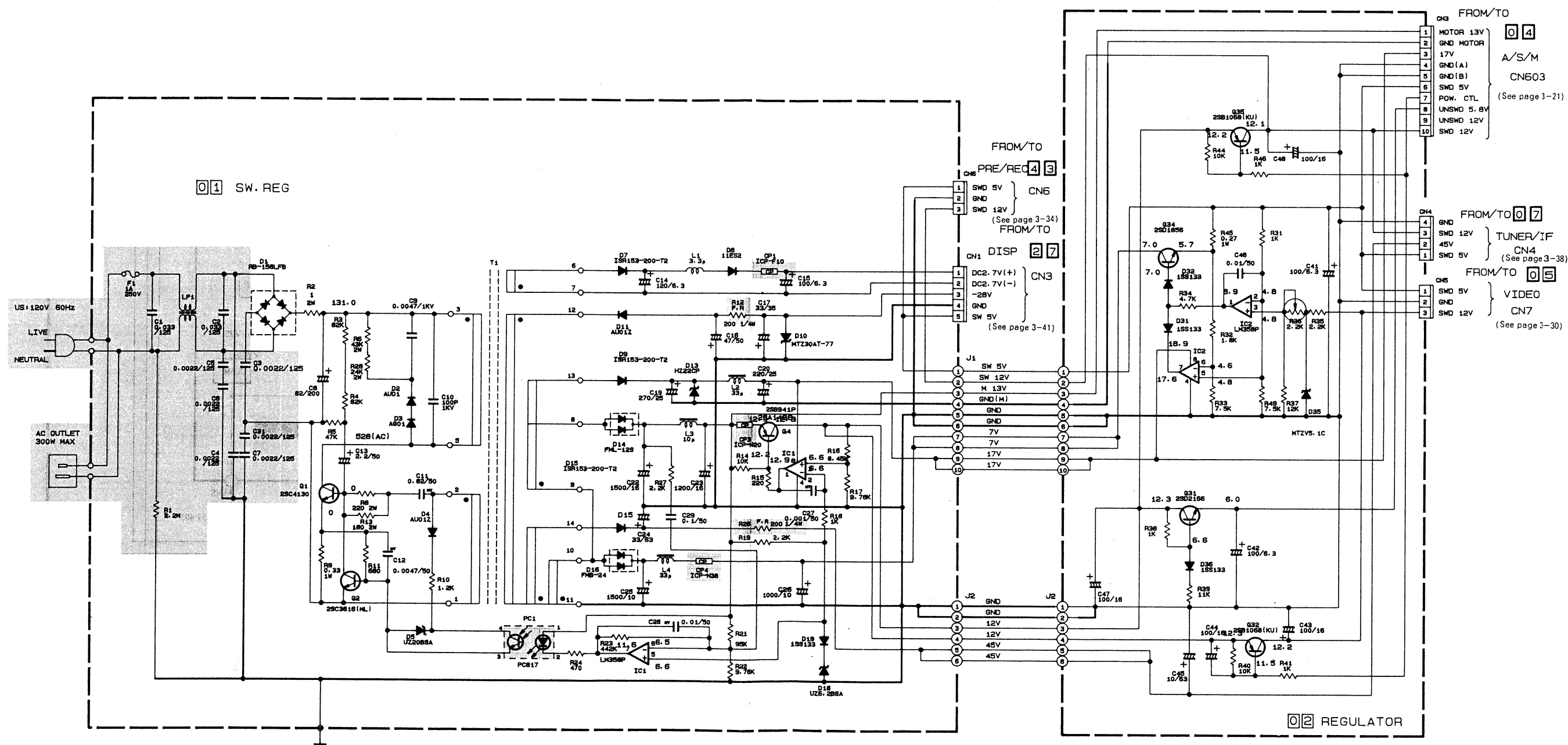
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3.8 SWITCHING REGULATOR SCHEMATIC DIAGRAM



6



4

3

2

1

A

B

C

3-15

3-16

E

F

G

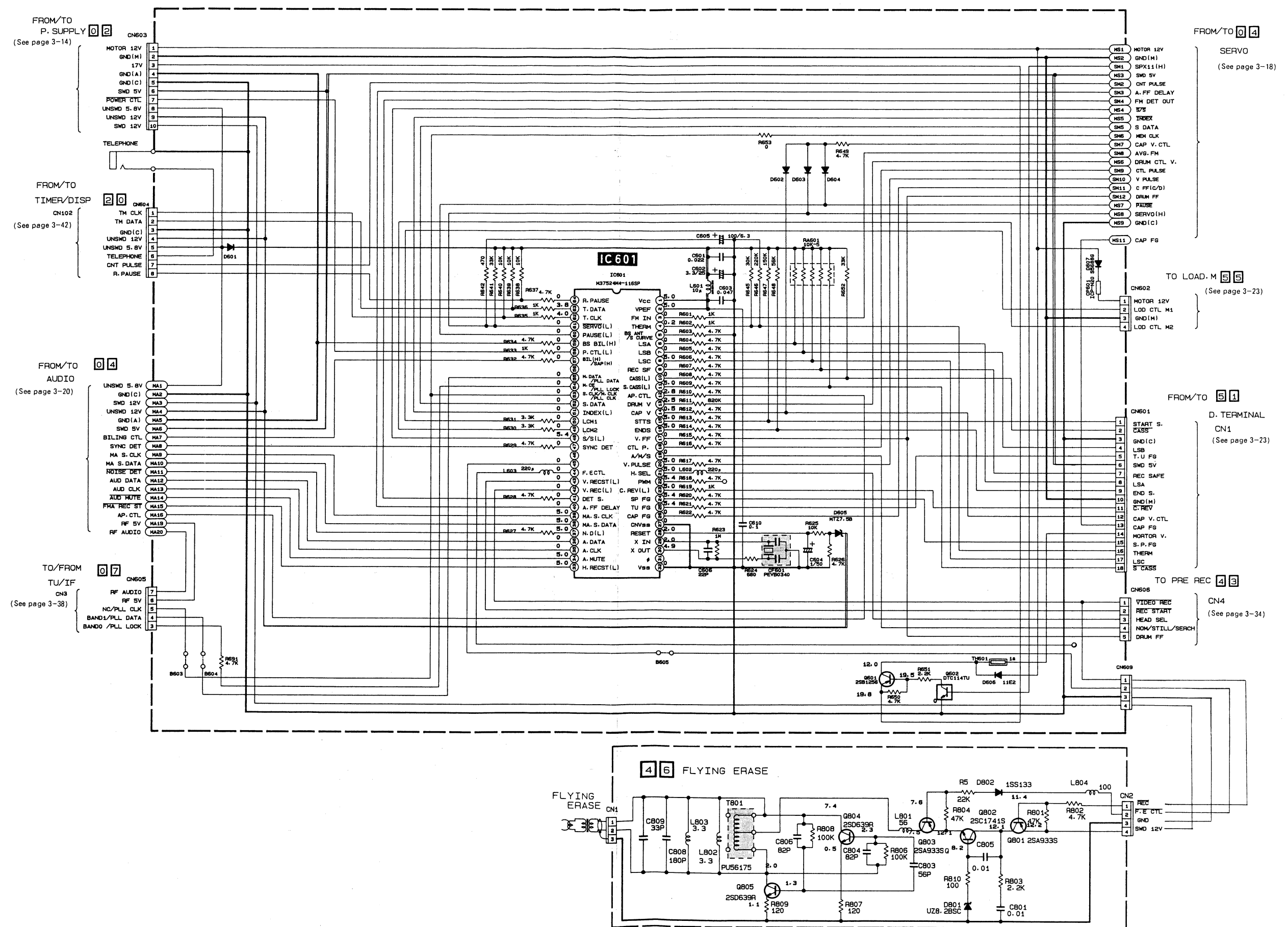
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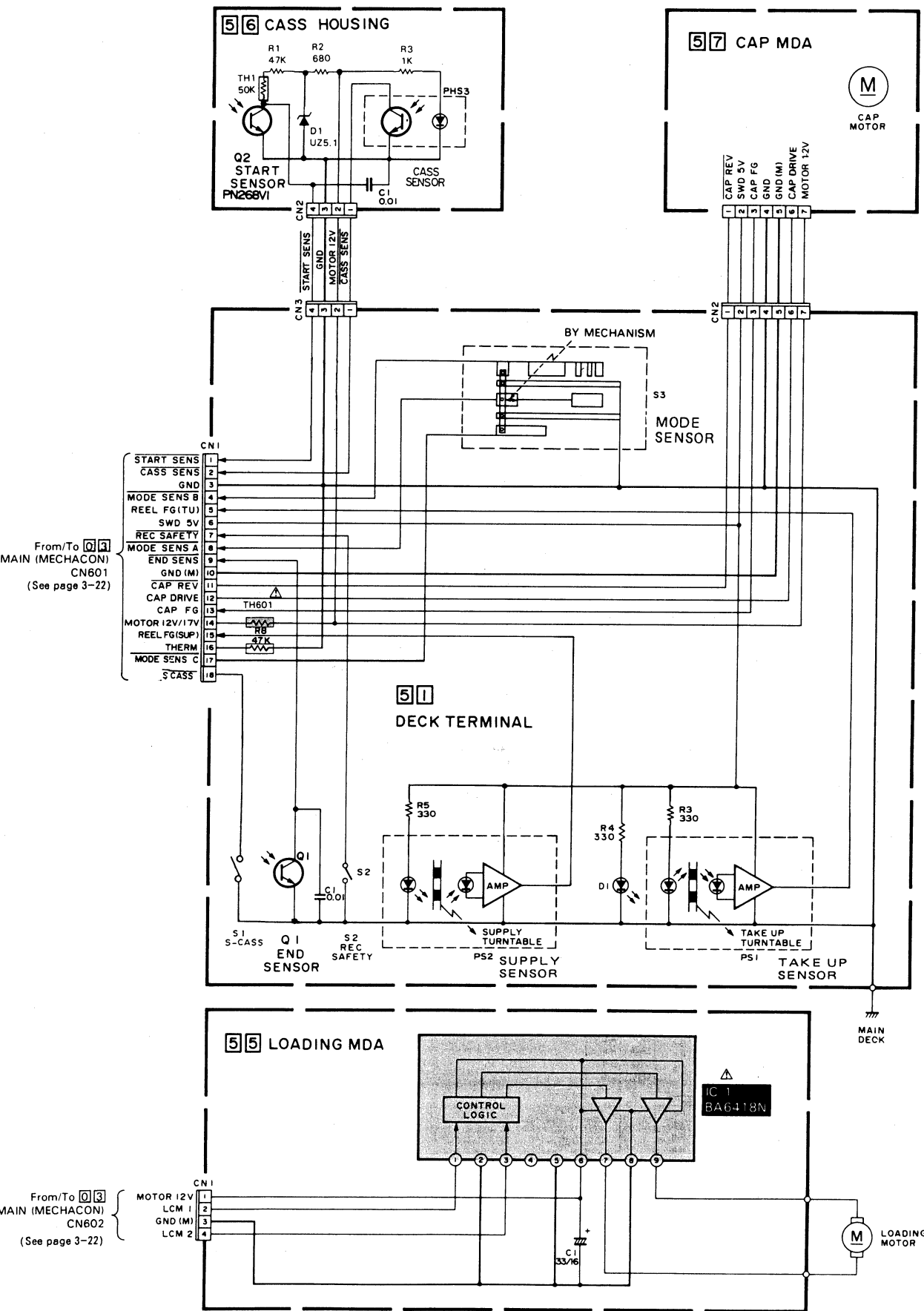




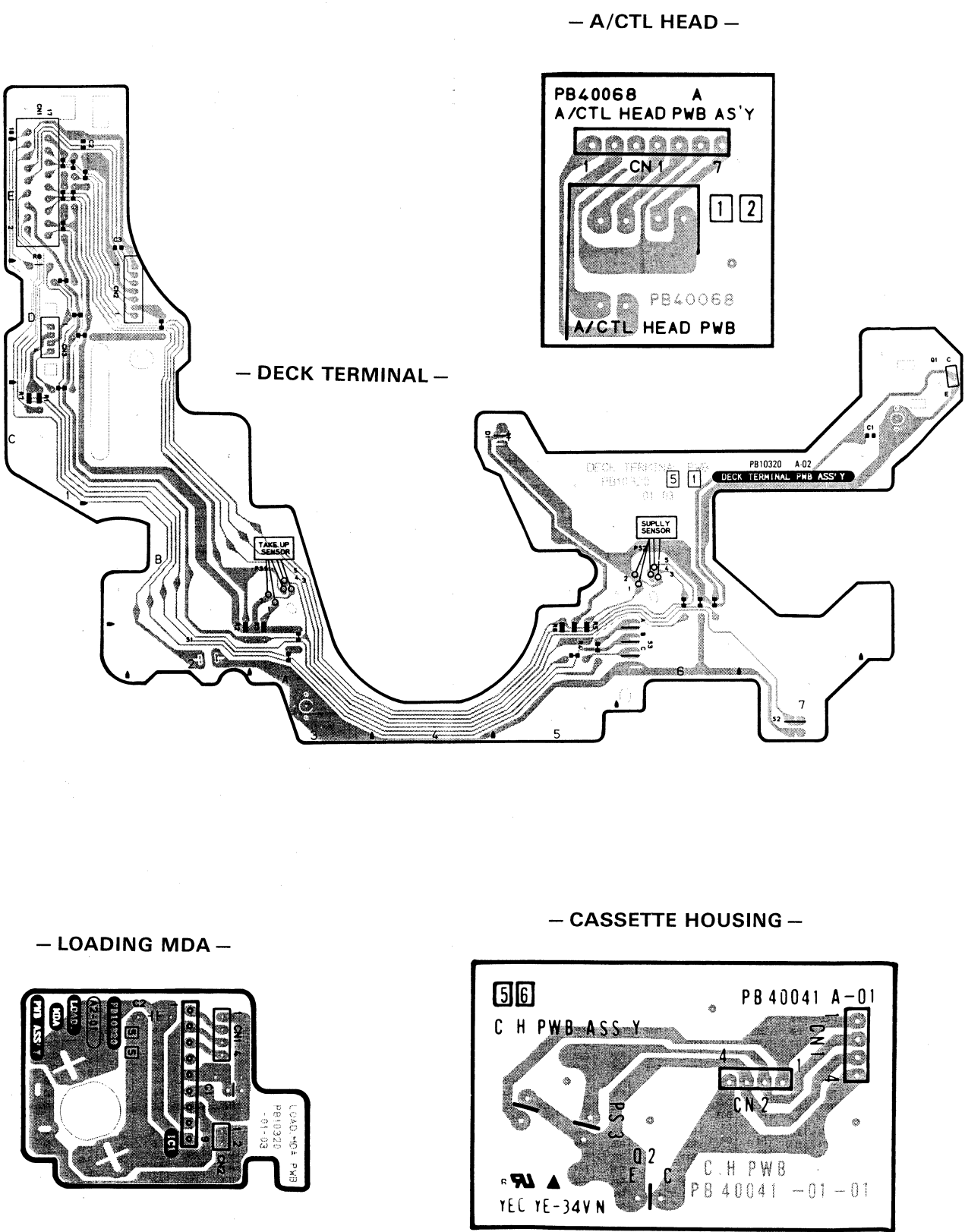
3.12 MECHANISM CONTROL AND FLYING ERASE SCHEMATIC DIAGRAMS



3.13 DECK TERMINAL, LOADING MDA, CAPSTAN MDA, AND CASS HOUSING SCHEMATIC DIAGRAMS.

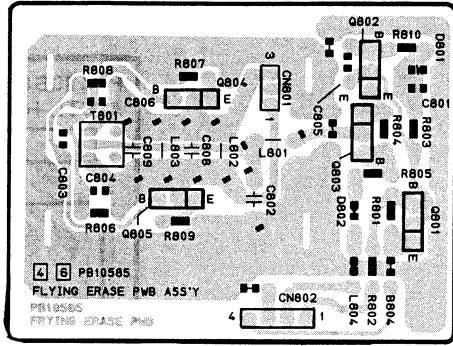


3.14 DECK TERMINAL, LOADING MDA, CASS HOUSING AND A/CTL HEAD CIRCUIT BOARDS.

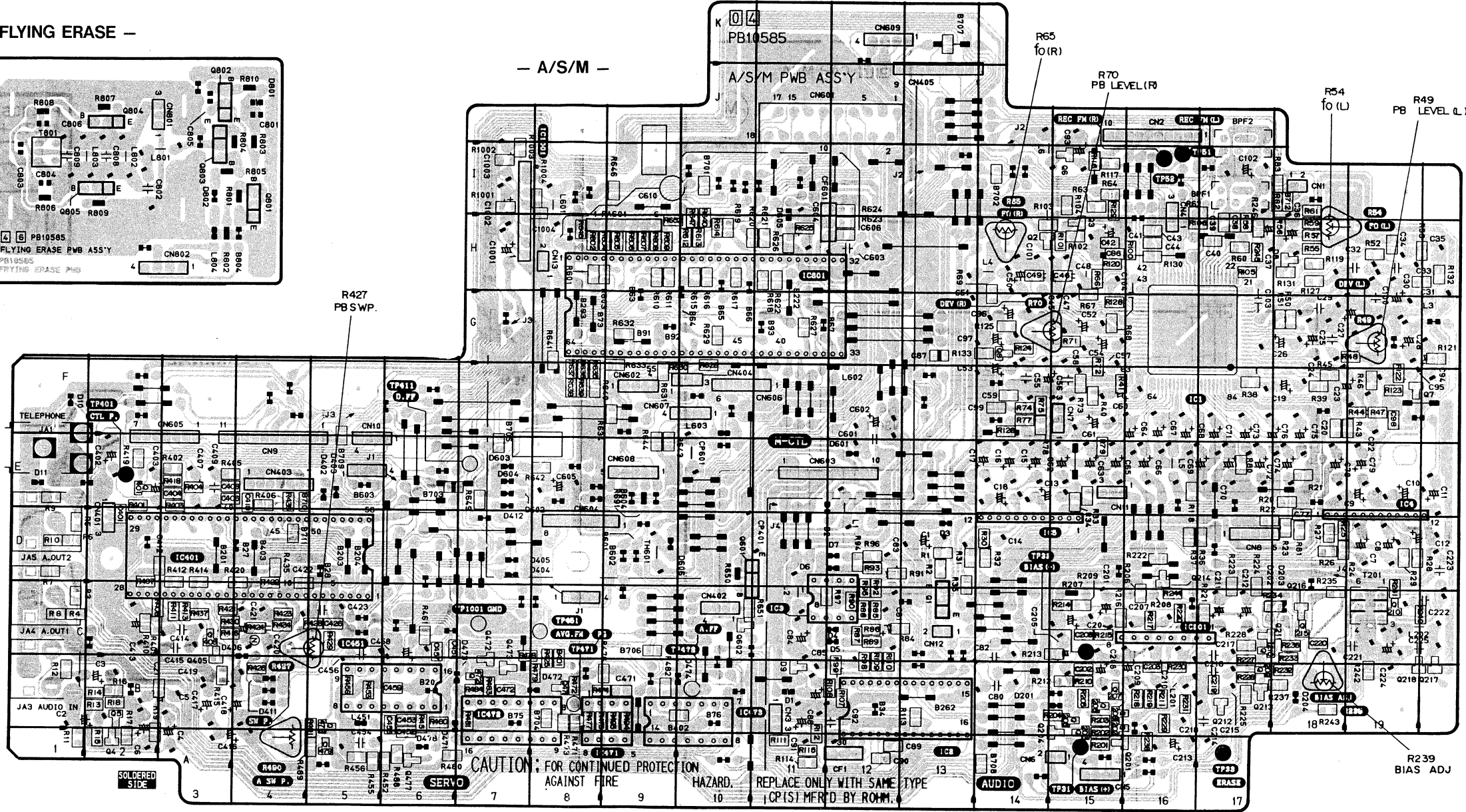


3.15 A/S/M CIRCUIT BOARD

— FLYING ERASE —

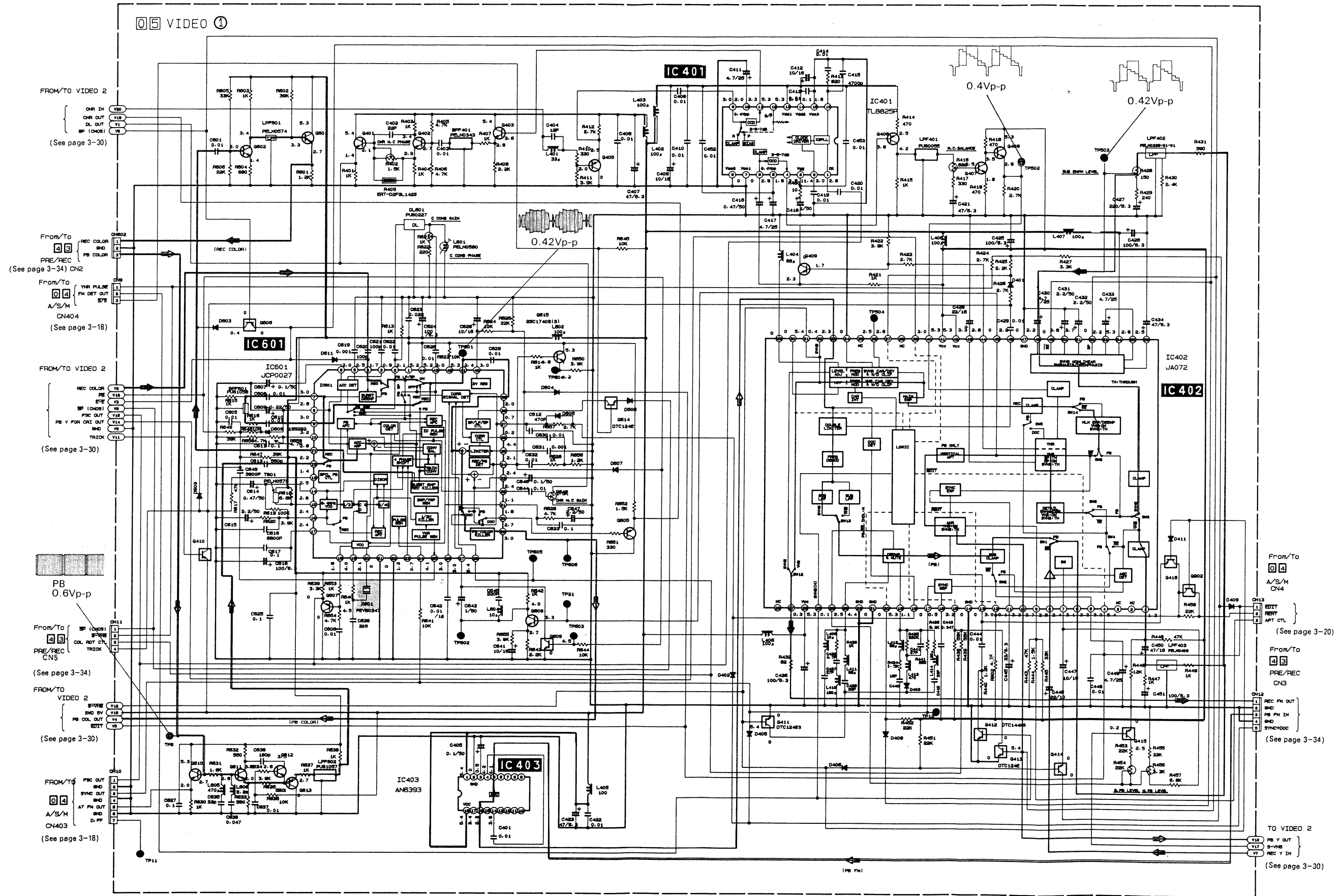


— A/S/M —

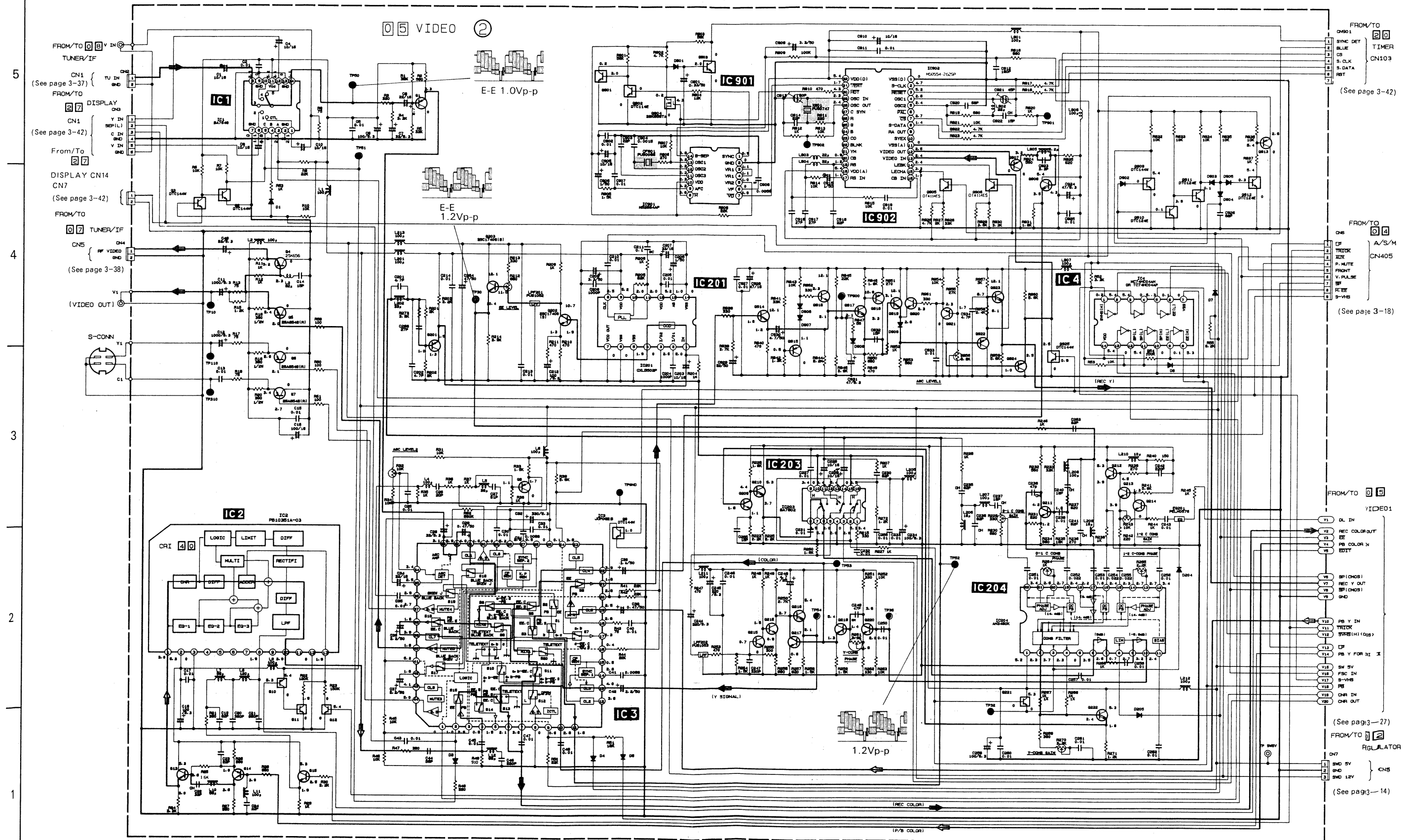
[illegible]

REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION
CAPACITOR		CAPACITOR		CONNECTOR	
C401	D-2	C802	F-12	CN503	E-11
C402	E-2	C903	H-12	CN504	D-9
C403	E-2	C904	H-11	CN506	F-11
C404	E-3	C905	H-12	CN507	F-10
C406	E-3	C906	H-12	CN508	E-9
C407	E-3	C901	J-4	CN501	I-4
C408	E-3	C902	I-5	CN802	I-6
C409	E-3	C803	G-5		
C410	E-4	C804	G-5		
C412	D-3	C805	J-4		OTHER
C413	C-2	C806	G-4	CF1	A-12
C414	C-3	C808	H-5	CF601	H-11
C415	C-3	C809	H-5	CP401	D-11
C416	A-3			CP601	E-10
C417	B-3	CONNECTOR			
C418	B-4	CN1	I-18		
C419	B-3	CN2	J-16		
C420	C-4	CN3	B-11		
C421	C-4	CN4	H-16		
C422	D-4	CN5	A-15		
C423	C-5	CN6	A-15		
C426	C-5	CN7	F-15		
C451	C-6	CN8	D-17		
C452	A-6	CN9	E-5		
C453	B-6	CN10	E-6		
C454	A-5	CN11	E-15		
C455	B-6	CN12	C-13		
C456	C-5	CN13	H-8		
C457	C-6	CN401	E-2		
C458	C-6	CN402	C-10		
C459	B-6	CN403	E-5		
C471	B-9	CN404	F-9		
C472	B-7	CN405	K-13		
C601	F-12	CN502	F-9		

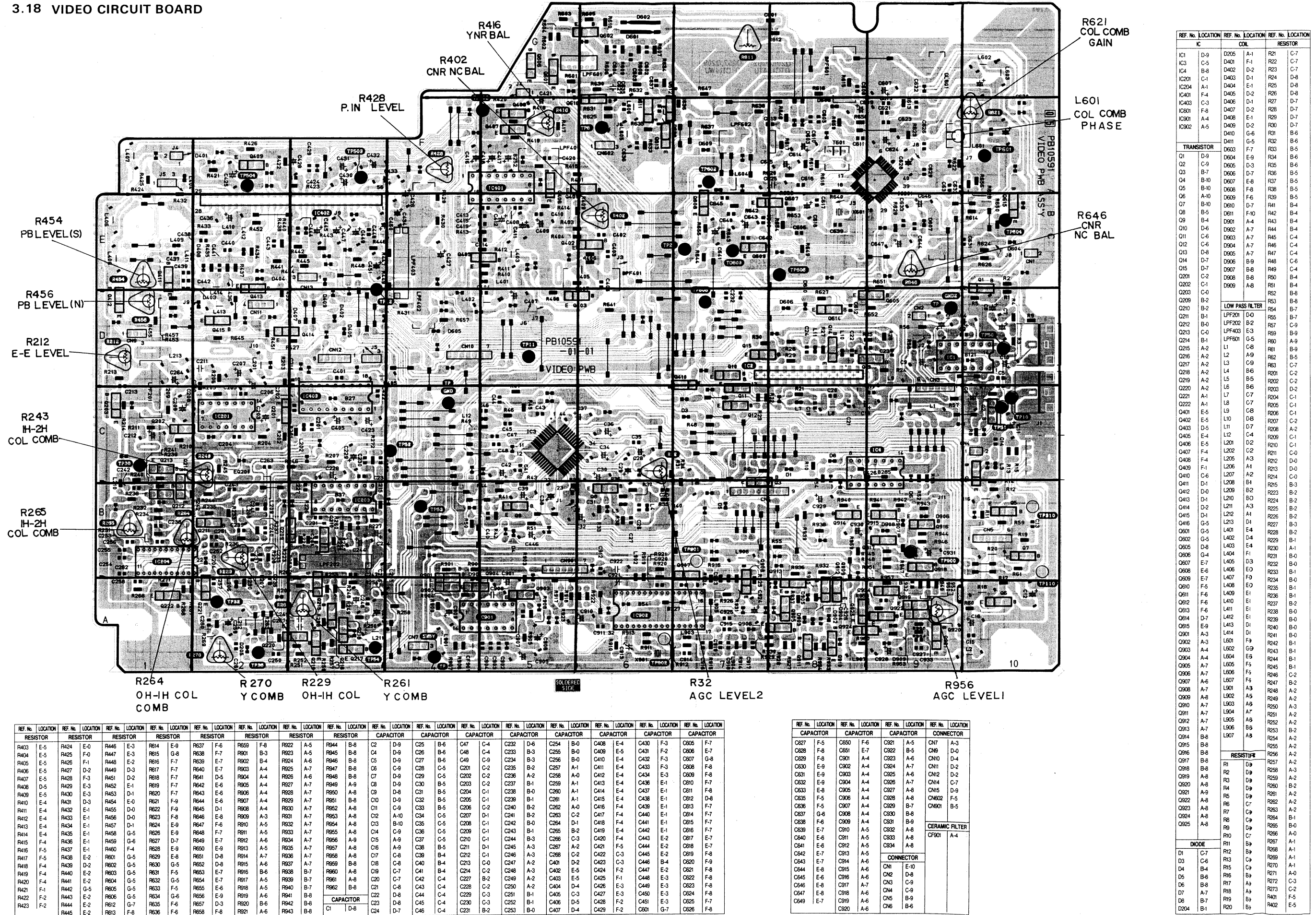
3.16 VIDEO(1) SCHEMATIC DIAGRAM



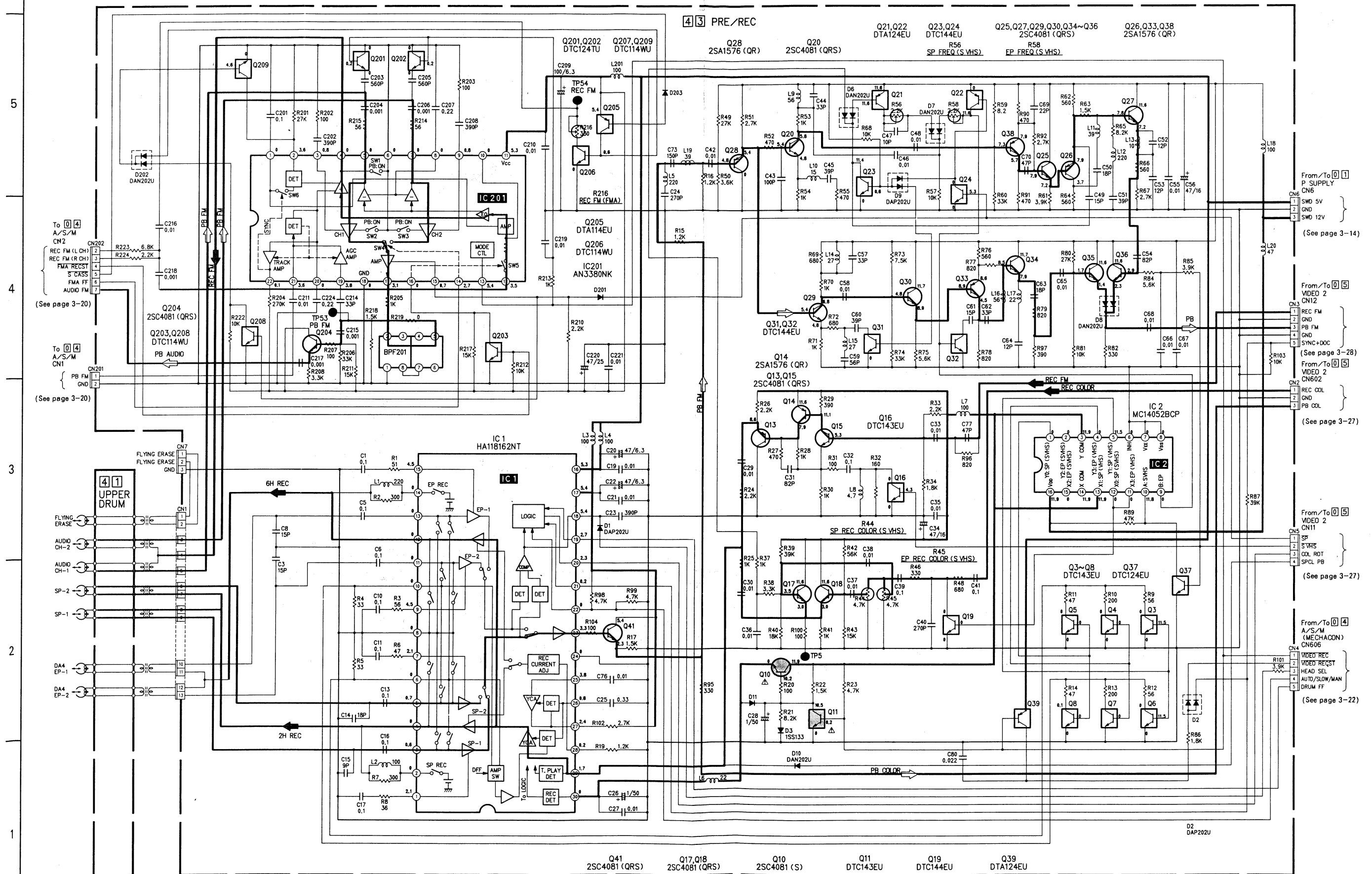
3.17 VIDEO(2) SCHEMATIC DIAGRAM



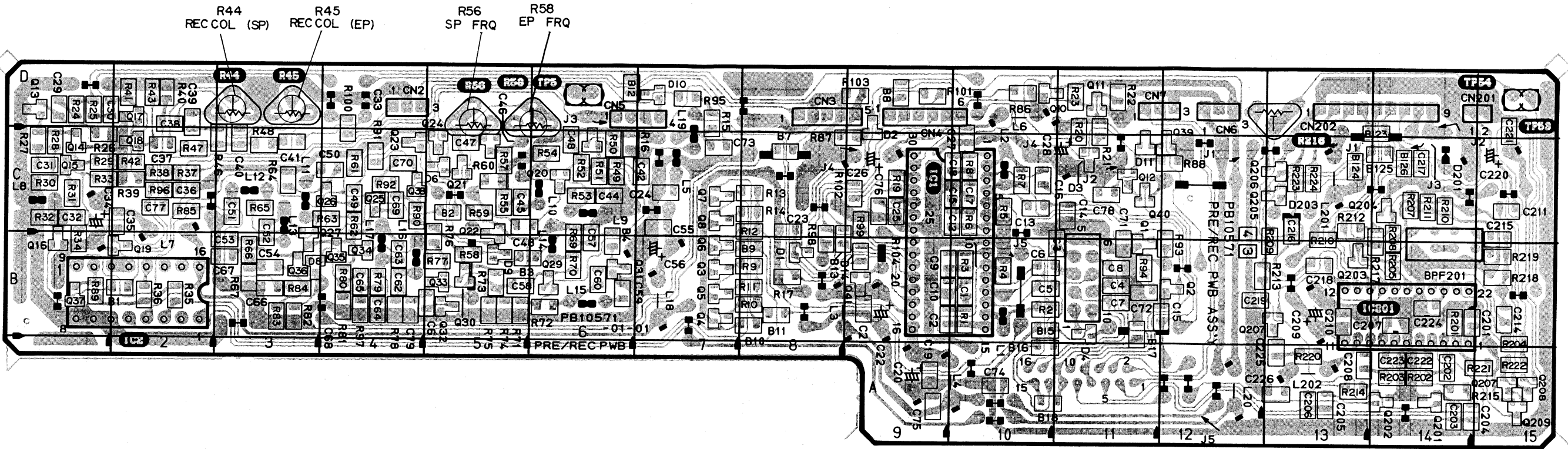
3.18 VIDEO CIRCUIT BOARD



REF. NO.	LOCATION	REF. NO.	LOCATION	REF. NO.	LOCATION
IC1	D-9	D205	A-1	R21	C-7
IC3	C-5	D401	F-1	R22	C-7
IC4	B-8	D402	D-2	R23	C-7
IC201	C-1	D403	D-1	R24	D-8
IC204	A-1	D404	E-1	R25	D-8
IC401	F-4	D405	D-2	R26	D-8
IC403	C-3	D406	D-1	R27	D-7
IC601	F-8	D407	D-2	R28	D-7
IC901	A-4	D408	E-1	R29	D-7
IC902	A-5	D409	D-2	R30	D-7
		D410	G-6	R31	B-6
		D411	G-5	R32	B-6
		D603	F-7	R33	B-5
		D604	E-9	R34	B-6
		D605	D-3	R35	B-6
		D606	D-7	R36	B-5
		D607	E-8	R37	B-5
		D608	F-8	R38	B-5
		D609	F-6	R39	B-5
		D610	D-7	R41	B-4
		D611	F-10	R42	B-4
		D901	A-4	R43	B-4
		D902	A-7	R44	B-4
		D903	A-7	R45	C-4
		D904	A-7	R46	C-4
		D905	A-7	R47	C-4
		D906	B-9	R48	C-6
		D907	B-8	R49	C-4
		D908	B-8	R50	B-4
		D909	A-8	R51	B-4
				R52	B-6
				R53	B-6
				R54	B-7
				R55	B-7
				R56	C-9
				R57	B-9
				R58	B-9
				R59	B-9
				R60	A-9
				R61	B-9
				R62	B-5
				R63	C-7
				R64	C-2
				R65	C-2
				R66	D-2
				R67	C-1
				R68	C-1
				R69	C-2
				R70	C-1
				R71	C-0
				R72	D-0
				R73	D-0
				R74	C-0
				R75	B-3
				R76	B-2
				R77	B-2
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				R92	B-1
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3.20 PRE/REC CIRCUIT BOARD



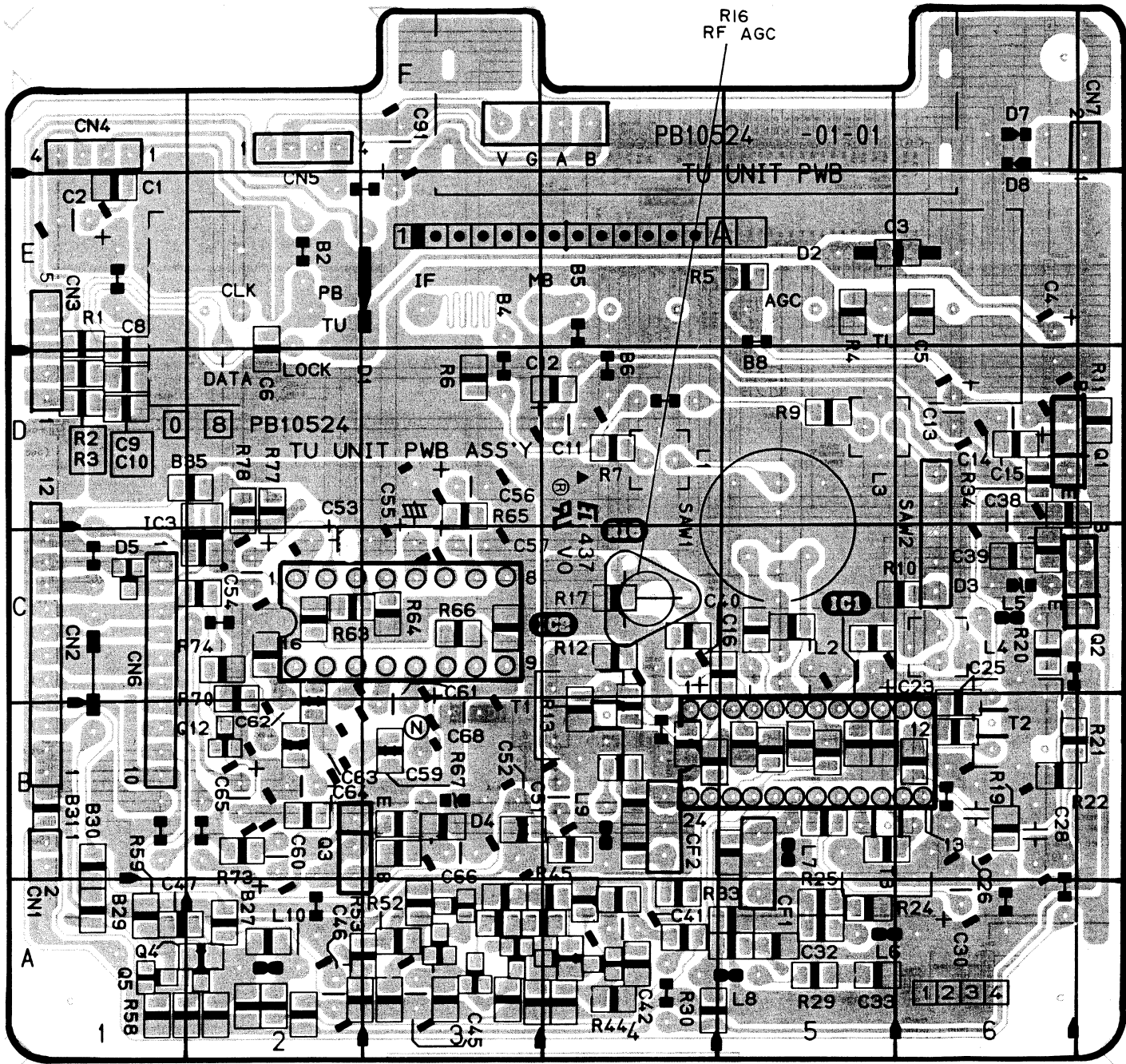
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IC		TRANSISTOR		DIODE		RESISTOR		RESISTOR	
IC1	C-10	Q31	B-7	D203	C-13	R4	B-10	R44	D-3
IC201	B-14	Q32	B-5	COIL		R5	C-10	R45	D-3
IC2	B-1	Q33	B-5			R6	C-10	R46	C-3
TRANSISTOR		Q34	B-4			R7	C-10	R47	C-2
		Q35	B-4			R8	C-10	R48	C-3
		Q36	B-3	L1	B-10	R9	B-8	R49	C-6
		Q37	B-1	L2	C-10	R10	B-8	R50	C-6
		Q38	C-5	L3	B-9	R11	B-8	R51	C-6
		Q39	C-12	L4	A-10	R12	C-8	R52	C-6
		Q40	C-12	L5	C-7	R13	C-8	R53	C-6
		Q41	B-9	L6	D-10	R14	C-8	R54	C-6
		Q201	A-14	L7	C-2	R15	D-7	R55	C-5
		Q202	A-14	L8	C-1	R16	C-7	R56	D-5
		Q203	B-14	L9	C-6	R17	B-8	R57	C-5
		Q204	C-14	L10	C-6	R19	C-9	R58	D-6
		Q205	C-13	L11	C-4	R20	D-11	R59	C-5
		Q206	C-13	L12	B-3	R21	D-11	R60	C-5
		Q207	B-13	L13	B-3	R24	D-1	R61	C-4
		Q208	A-15	L14	B-6	R25	D-1	R62	C-4
		Q209	A-15	L15	B-5	R26	D-1	R63	C-4
		DIODE		L16	B-4	R27	C-1	R64	C-3
				L17	B-7	R28	C-1	R65	C-3
				L18	C-7	R29	C-2	R66	B-3
				L19	A-12	R30	C-1	R67	B-3
D2	C-5	D4	C-11	L20	C-12	R31	C-1	R68	B-5
D3	C-5	D6	C-5	L21	C-13	R32	C-1	R69	B-6
D4	C-5	D7	C-5	L202	A-13	R33	C-2	R70	B-6
D5	C-4	D8	B-4	RESISTOR		R34	B-1	R71	B-6
D6	C-4	D9	B-5			R35	B-2	R72	B-6
D7	B-4	D11	D-11			R36	B-2	R73	B-5
D8	C-6	D201	C-14			R37	C-2	R74	B-5
D9	B-5	D202	A-15	R1	B-10	R38	C-2	R75	B-5
Q2	B-12			R2	B-11	R39	C-2	R76	B-5
Q3	B-7			R3	B-10	R42	C-2	R77	B-5
Q4	B-7								
Q5	B-7								
Q6	B-7								
Q7	C-7								
Q8	C-7								
Q9	D-11								
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Q24	C-4								
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Q28	B-6								
Q29	B-5								
Q30									

REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION
RESISTOR		RESISTOR		CAPACITOR		CAPACITOR		CAPACITOR	
R78	B-4	R211	C-14	C7	B-11	C41	C-3	C75	A-10
R79	B-4	R212	C-13	C8	B-11	C42	C-7	C76	C-9
R80	B-4	R213	B-13	C9	B-10	C43	C-6	C77	C-2
R81	B-4	R214	A-14	C10	B-10	C44	C-6	C78	C-11
R82	B-3	R215	A-15	C11	C-10	C45	C-6	C79	B-5
R83	B-3	R216	D-13	C12	C-10	C46	C-6	C80	B-12
R84	B-3	R217	B-14	C13	C-10	C47	C-5	C201	B-15
R85	C-2	R218	B-15	C14	C-11	C48	C-6	C202	A-14
R87	C-9	R219	B-15	C15	C-11	C49	C-4	C203	A-14
R88	C-12	R220	A-13	C16	C-11	C50	C-4	C204	A-15
R89	B-2	R221	A-15	C17	C-10	C51	C-3	C205	A-13
R90	C-5	R222	A-15	C18	C-10	C52	C-3	C206	A-13
R91	C-4	R223	C-13	C19	A-9	C53	B-3	C207	B-14
R92	C-4	R224	C-13	C20	B-9	C54	B-3	C208	A-14
R93	B-12	CONNECTOR		C21	B-9	C55	C-7	C209	B-13
R94	B-12			C22	B-9	C56	B-7	C210	B-13
R96	C-2			C23	C-8	C57	B-6	C211	C-15
R97	B-4			C24	C-7	C58	B-6	C214	B-15
R98	B-8	CN202	D-13	C25	C-9	C59	B-7	C215	C-15
R99	C-9	CN2	D-4	C26	C-9	C60	B-6	C216	C-13
R100	D-4	CN7	D-12	C27	C-10	C61	B-5	C217	C-14
R102	C-9	CN201	D-15	C28	C-11	C62	B-4	C218	B-13
R104	B-9	CN3	D-8	C29	D-1	C63	B-4	C219	B-13
R201	B-14	CN6	D-12	C30	D-2	C64	B-4	C220	C-15
R202	A-14	CN5	D-6	C31	C-1	C65	B-4	C221	D-15
R203	B-15	CAPACITOR		C32	C-1	C66	B-3	C222	A-14
R204	B-15			C33	D-4	C67	B-3	C223	A-14
R205	B-14			C34	B-2	C68	B-4	C224	B-14
R206	C-14			C35	C-2	C69	C-4	C225	A-13
R207	C-14	C1	B-10	C36	C-2	C70	C-4	C226	A-13
R208	C-14	C2	B-11	C37	C-2	C71	B-11		
R209	B-13	C3	B-11	C38	D-2	C72	B-12		
R210	B-13	C4	B-11	C39	D-2	C73	C-7		
		C5	B-11	C40	C-3	C74	A-10		
		C6	B-11						

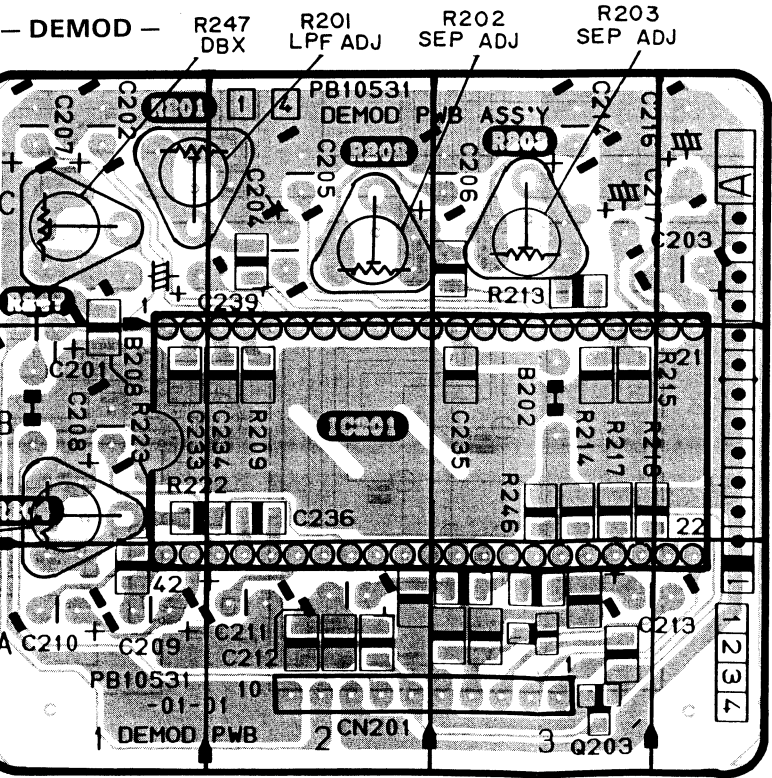


3.22 TUNER/IF AND DEMOD CIRCUIT BOARDS

- TUNER -



REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION
IC		RESISTOR		RESISTOR		CAPACITOR		CAPACITOR	
IC1	C-5	R2	E-1	R51	A-3	C1	F-2	C44	A-4
TRANSISTOR	B-2 B-2 B-4 B-4 B-4 B-3 C-2	R3	E-1	R52	B-3	C2	F-1	C45	A-3
		R4	E-6	R53	B-3	C3	F-6	C46	A-3
		R5	F-5	R54	A-3	C4	F-6	C47	B-2
		R6	E-4	R55	A-2	C5	E-2	C48	A-2
		R7	D-5	R56	A-2	C6	E-2	C49	B-2
		R8	D-5	R57	B-2	C7	E-2	C50	A-2
		R9	E-6	R58	B-2	C8	E-2	C51	C-4
		R10	D-6	R59	B-2	C9	E-2	C52	B-4
		R11	C-4	R60	B-4	C10	E-2	C53	D-3
		R12	C-4	R61	B-4	C11	E-4	C54	D-2
		R13	C-4	R62	B-4	C12	E-4	C55	D-4
		R14	C-5	R63	D-3	C13	E-6	C56	D-4
DIODE	F-3 F-6 D-7 C-4 F-6	R15	D-5	R64	D-3	C14	D-5	C57	D-4
		R16	D-4	R65	D-4	C15	D-6	C58	D-4
		R17	D-4	R66	D-4	C16	C-5	C59	C-3
		R18	C-6	R67	C-3	C17	C-4	C60	B-2
		R19	B-6	R68	C-2	C18	C-6	C61	C-3
		R20	B-6	R69	C-3	C19	C-6	C62	C-3
		R21	B-6	R70	C-2	C20	C-5	C63	C-2
		R22	B-6	R71	C-3	C21	C-5	C64	C-2
		R23	B-5	R72	C-3	C22	C-6	C65	C-3
		R24	B-5	R73	B-3	C23	C-6	C66	B-4
		R25	B-6	R74	C-2	C24	C-6	C67	B-3
		R26	B-5	R75	B-3	C25	C-6	C68	C-4
COIL	D-5 C-5 C-6 D-6 B-6 B-5 B-4	R27	B-5	R76	B-3	C26	B-6	C69	F-3
		R28	B-5	R77	D-2	C27	C-6	CERAMIC FILTER	B-5 B-5
		R29	B-6	R78	D-2	C28	B-6		
		R30	A-5	CONNECTOR	F-2 B-1 C-1 E-1 D-2	C29	B-6		
		R31	C-6			C30	B-6		
		R32	C-5			C31	B-6		
		R33	B-5			C32	B-5		
		R34	B-5			C33	B-6		
		R35	B-4			C34	C-5		
		R36	B-4			C35	B-5		
		R37	B-4			C36	C-5		
		R38	A-4			C37	C-4		
R39	B-4	C38	D-7						
R40	A-4	C39	C-5						
IC	D-5 C-5 C-6 D-6 B-6 B-5 B-4	R41	A-3			C40	B-5		
		R42	B-3	C41	B-5				
		R43	B-3	C42	B-5				
		R44	A-4	C43	A-4				
		R45	B-4						
		R46	B-4						
		R47	A-4						
		R48	B-4						
		R49	A-3						
		R50	B-3						



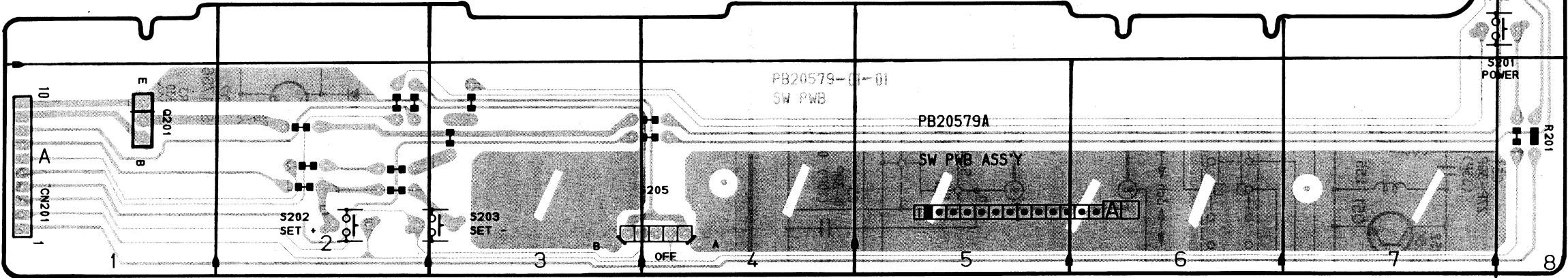
REF. No.	LOCATION	REF. No.	LOCATION
IC		CAPACITOR	
IC201	C-1	C201	C-1
TRANSISTOR	B-3 A-3	C202	C-4
		C203	D-2
		C204	C-1
		C205	B-1
		C206	B-2
RESISTOR	C-2 D-3 C-1 B-3 B-2 D-2 C-3 C-3 C-3 B-4 B-3 B-3 B-2 B-1 B-3 B-3 D-1	C207	B-2
		C208	B-3
		C209	C-1
		C210	C-2
		C211	B-2
		C212	B-4
		C213	B-2
		C214	B-3
		C215	C-1
		C216	C-2
		C217	C-3
		C218	C-3
		C219	C-3
		C220	C-3
		C221	C-3
		C222	C-3
		C223	C-3
		C224	C-3
		C225	C-3
		C226	C-3
		C227	C-3
		C228	C-3
		C229	C-3
		C230	C-3
		C231	C-3
		C232	C-3
		C233	C-3
		C234	C-3
		C235	C-3
		C236	C-3
		C237	C-3
		C238	C-3
		C239	C-3
CONNECTOR	CN201	B-3	

3.24 TIMER, DISPLAY AND SWITCH CIRCUIT BOARDS

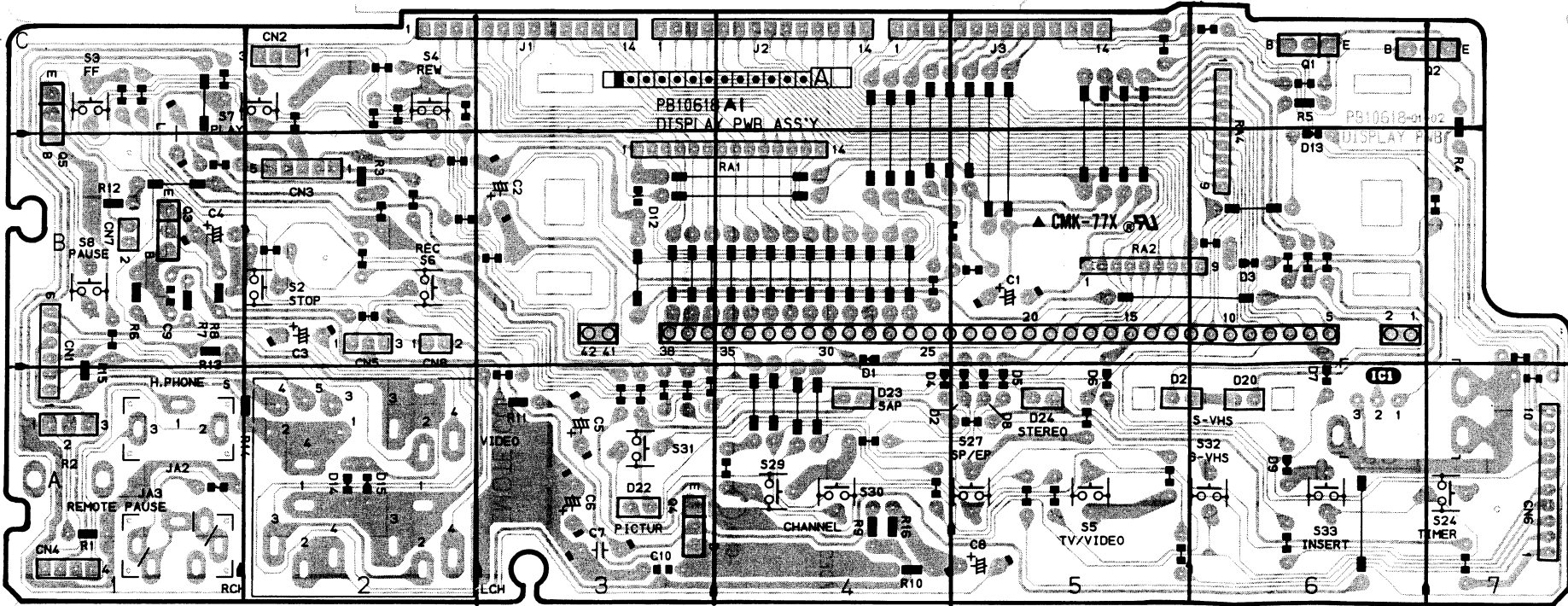
— TIMER —

REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION
IC		RESISTOR		RESISTOR		CAPACITOR	
IC101	A-2	R101	B-4	R128	C-2	C110	C-4
IC102	C-3	R102	B-3	R129	C-3	C111	B-1
TRANSISTOR		R103	B-3	R130	A-4	C112	B-1
		R104	A-4	R131	C-2	C113	B-3
		R105	A-4	R132	A-4	C114	B-3
		R106	B-1	R133	C-1	C115	A-1
		R107	C-3	R134	C-2	C116	A-1
Q101	B-3	R108	C-4	R135	C-2	C117	A-1
Q103	A-4	R109	C-1	R136	C-2	CONNECTOR	
Q104	B-3	R110	C-1	R137	A-1	CN101	C-2
Q105	A-3	R111	C-1	R138	A-1	CN103	C-3
DIODE		R112	C-1	R139	C-3	CN102	C-4
		R113	C-1	R140	C-3	CAPACITOR	
		R114	C-1	RA101	C-1	C101	B-3
		R115	C-1	CAPACITOR		C102	B-3
		R117	B-1			C103	B-4
D102	B-4	R118	C-3			C105	A-4
D103	B-3	R119	C-3			C106	A-4
D104	B-3	R120	C-3			C107	B-1
D105	B-4	R121	C-2			C108	C-3
D106	B-4	R122	C-1			C109	C-4
D107	C-1	R123	C-2				
D108	C-1	R124	C-2				
D109	C-1	R125	C-4				
D110	A-3	R126	B-3				

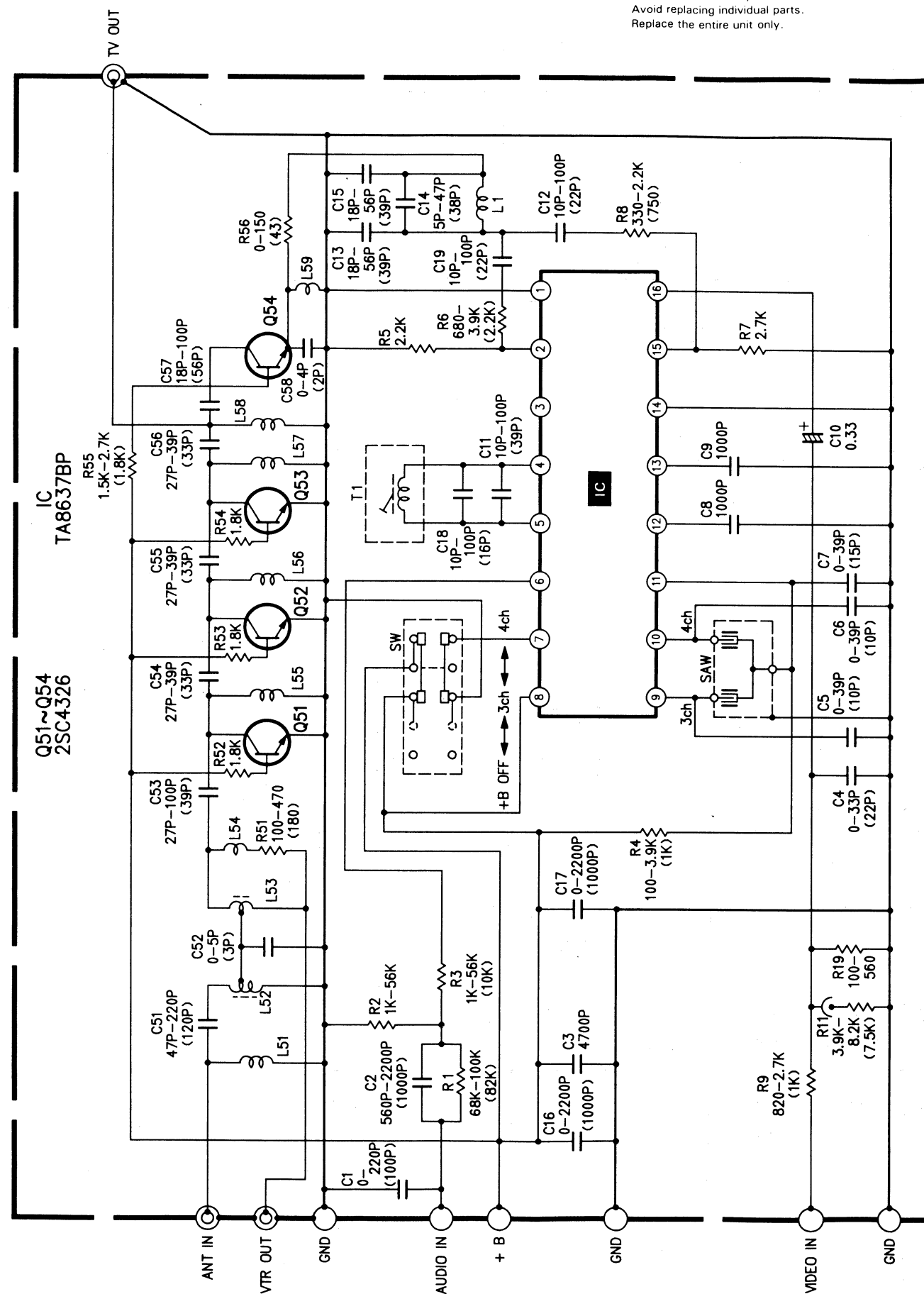
— SWITCH —



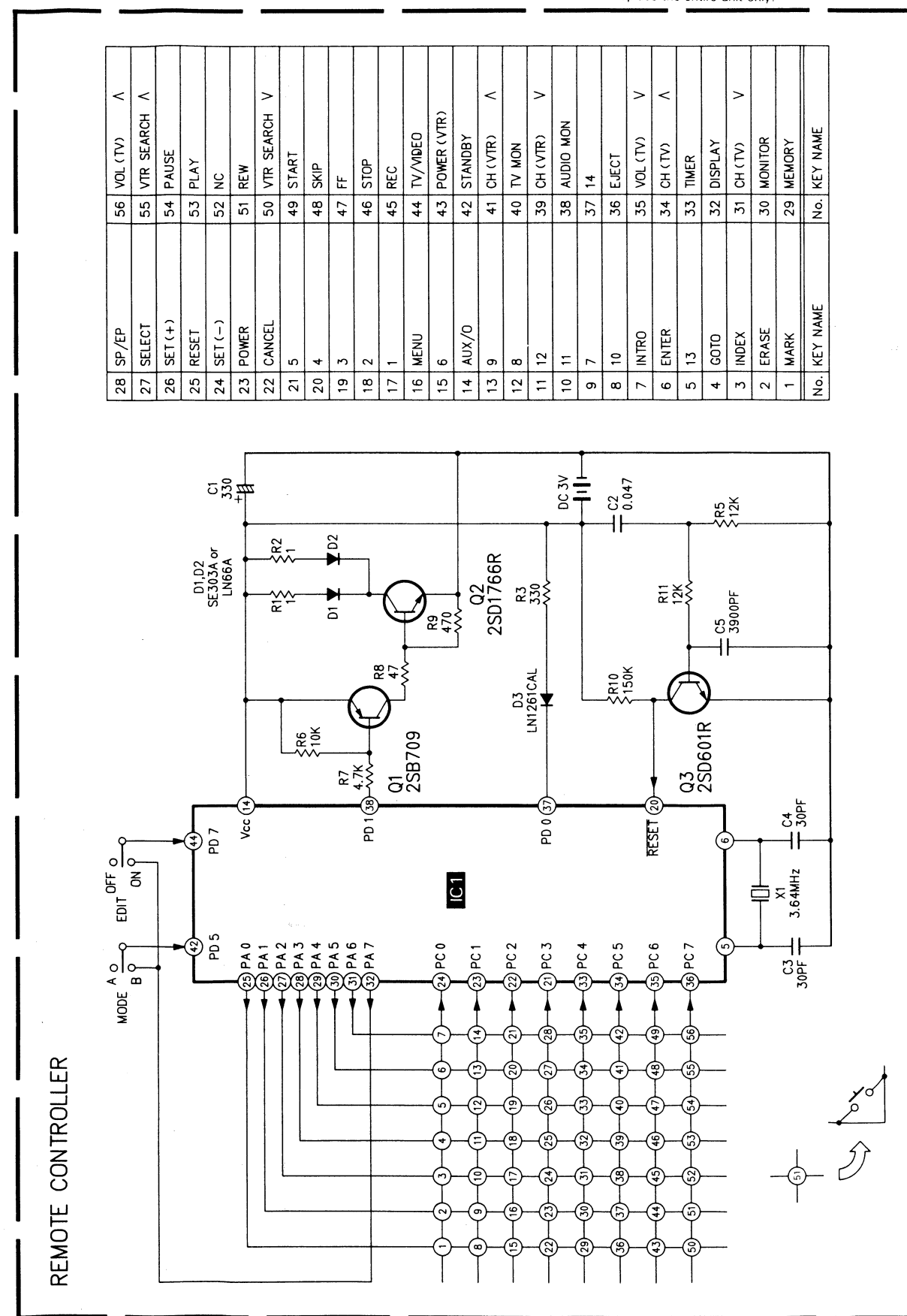
— DISPLAY —



3.25 RF CONVERTER SCHEMATIC DIAGRAM



3.26 REMOTE CONTROL SCHEMATIC DIAGRAM



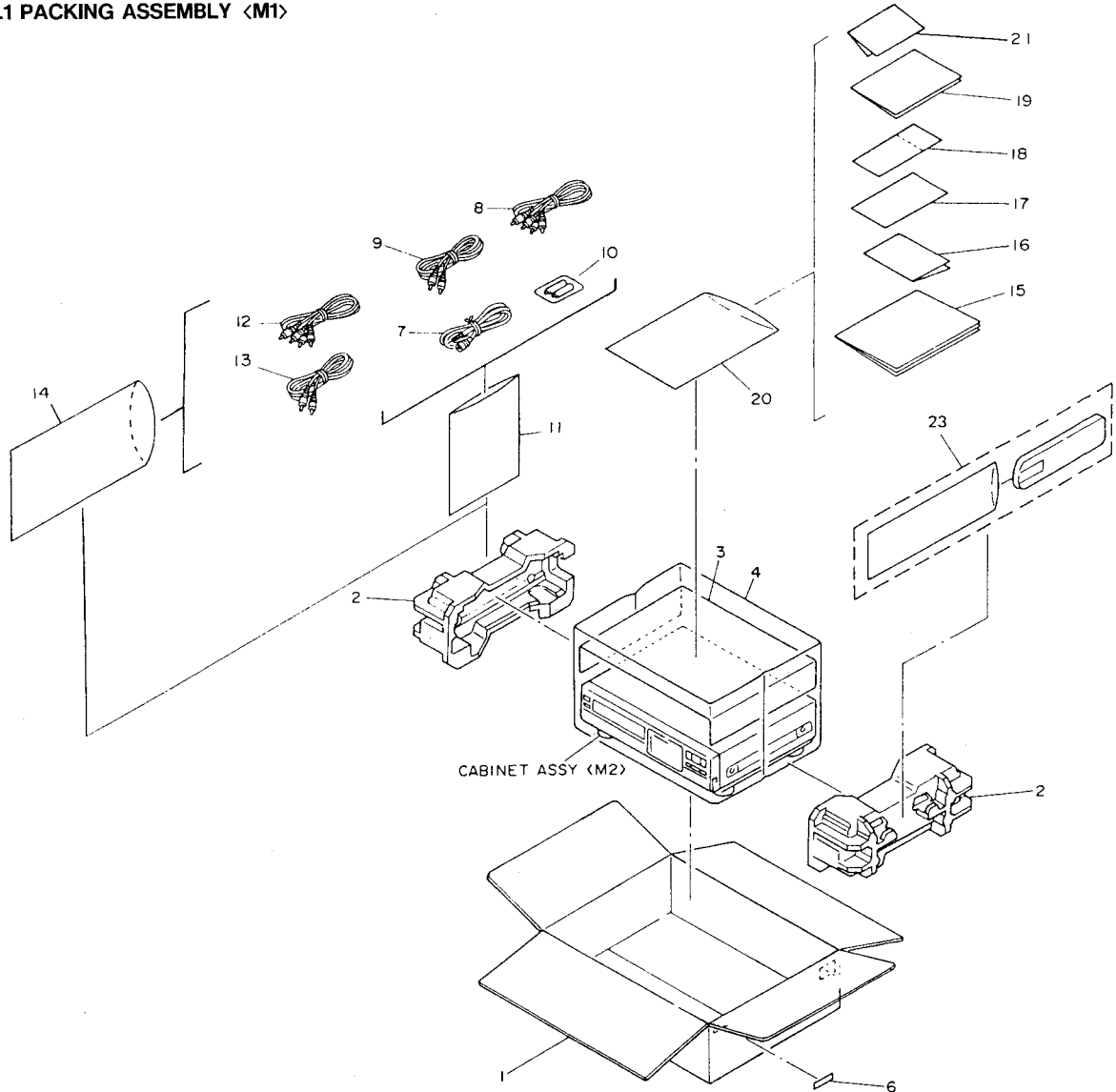
No.	KEY NAME	No.	KEY NAME
28	SP/EP	56	VOL (TV)
27	SELECT	55	VTR SEARCH
26	SET (+)	54	PAUSE
25	RESET	53	PLAY
24	SET (-)	52	NC
23	POWER	51	REW
22	CANCEL	50	VTR SEARCH
21	5	49	START
20	4	48	SKIP
19	3	47	FF
18	2	46	STOP
17	1	45	REC
16	MENU	44	TV/VIDEO
15	6	43	POWER (VTR)
14	AUX/O	42	STANDBY
13	9	41	CH (VTR)
12	8	40	TV MON
11	12	39	CH (VTR)
10	11	38	AUDIO MON
9	7	37	14
8	10	36	EJECT
7	INTRO	35	VOL (TV)
6	ENTER	34	CH (TV)
5	13	33	TIMER
4	GOTO	32	DISPLAY
3	INDEX	31	CH (TV)
2	ERASE	30	MONITOR
1	MARK	29	MEMORY

SECTION 4 EXPLODED VIEWS AND PARTS LIST

SAFETY PRECAUTION

Parts identified by the Δ symbol are critical for safety. Replace only with specified part numbers.

4.1 PACKING ASSEMBLY <M1>



#	Δ	REF No.	PART No.	PART NAME, DESCRIPTION

PACKING ASSEMBLY <M1>

1		PQ34185	PACKING CASE
2		PQ34154A	CUSHION ASSY
3		PQ41026-21	PROTECT SHEET
4		PQM30021-82	POLY BAG
6		PQ44946	LABEL (SERIAL)
7		PU59168-2	RF CABLE
		or PU59167-2	RF CABLE
8		PU60111	DIN CORD (S-VIDEO cable)
		or PU61113	MINI DIN CABLE (S-VIDEO cable)
9		PEAC0135	PIN CORD (Mini-plug cable)

#	Δ	REF No.	PART No.	PART NAME, DESCRIPTION
10			UM-3DJ2P	BATTERY
11			QPGA020-02005	POLY BAG
12			PU56142-3	PIN CORD ASSY (AUDIO cable)
			or PU56142-5	PIN CORD ASSY (AUDIO cable)
13			PU59205-3	PIN JACK CABLE (VIDEO cable)
			or PU59205-4	PIN JACK CABLE (VIDEO cable)
14			QPGA010-02505	POLY BAG
Δ 15			PU30425-1227	INSTRUCTIONS
16			TCU-3492	TAPE CATALOG
17			BT-20062C	WARRANTY CARD
18			BT-20046E	TOLL FREE CARD
Δ 19			PU33941-3-3	SAFETY CAUTION
20			QPGA025-03505	POLY BAG
21			PU36560	CONNECTION SHEET
Δ 23			PQ10956G	REMOTE CONTROLLER

ASSEMBLY <M2>

CHASSIS ASSY <M3>

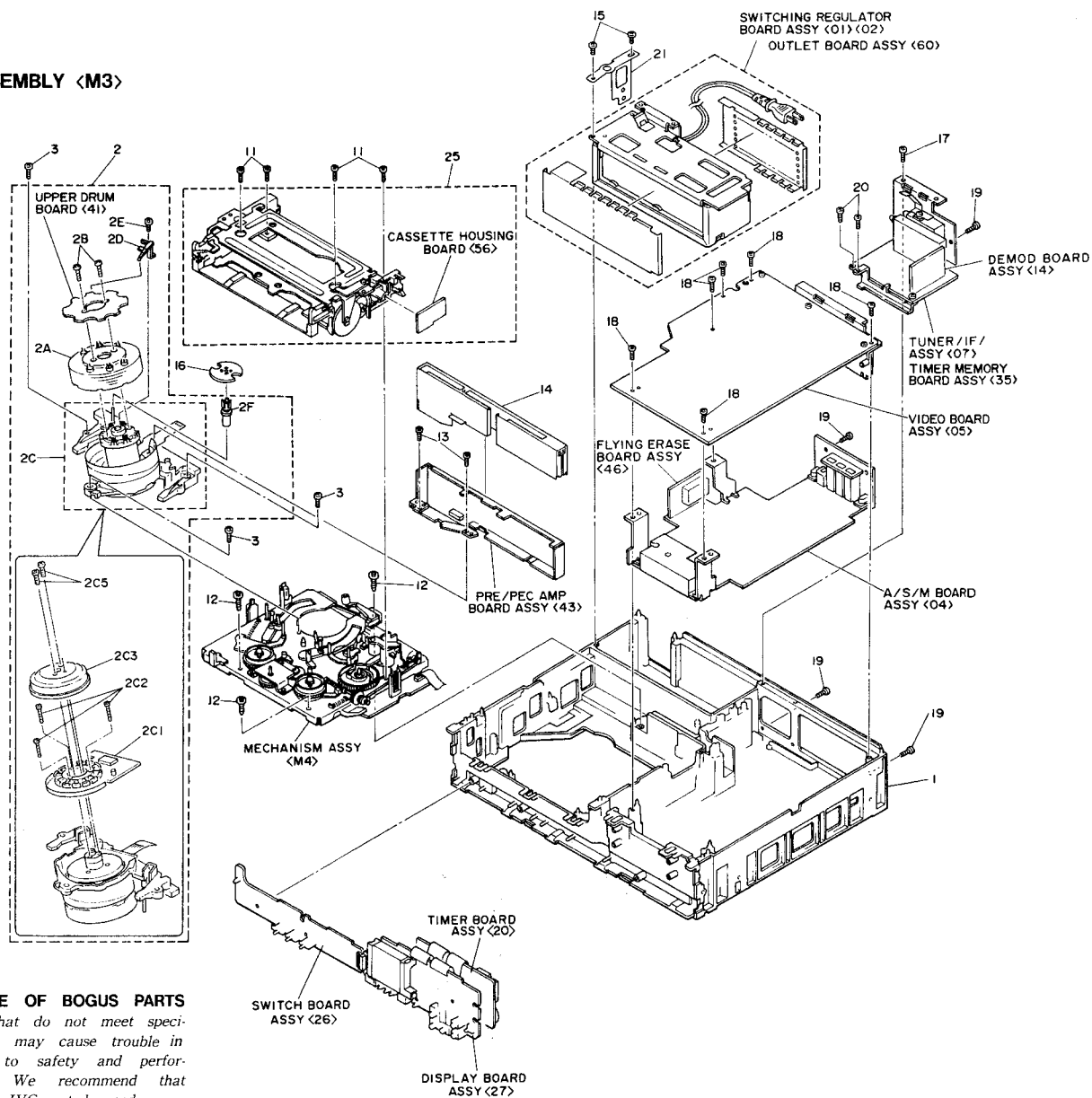
**HR-S4700U
CABINET ASSY**

CHASSIS ASSEMBLY <M2>

#	Δ	REF No.	PART No.	PART NAME, DESCRIPTION
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1R	PQ33867G	DOOR(2) ASS'Y
1S	PQ45170-1-1	SPRING (L)
1T	PQ45171-1-1	SPRING (R)
1U	SDSF2605Z	SCREW
1Y	PQ45203	BRACKET
1Z	SDSF2005Z	SCREW
△ 2	PQ11011-2-3	TOP COVER
3	PQ43827	SPECIAL SCREW
4	PQ43749F	FQOT ASS'Y
5	SDSF3010Z	SCREW
△ 6	PQ33562-4	RATING LABEL
△ 7	PQ33384-7	SHEET (OUTLET)
8	PQ43888-2	KNOB (VOLUME)
9	PQ45254-2	FILTER (FDP)
△ 10	PQ11025-1-4	BOTTOM COVER
11	SDSG3008Z	SCREW,X4
△ 12	PQ44011	CAUTION LABEL
13	PU57296	PATENT LABEL

4.3 CHASSIS ASSEMBLY <M3>



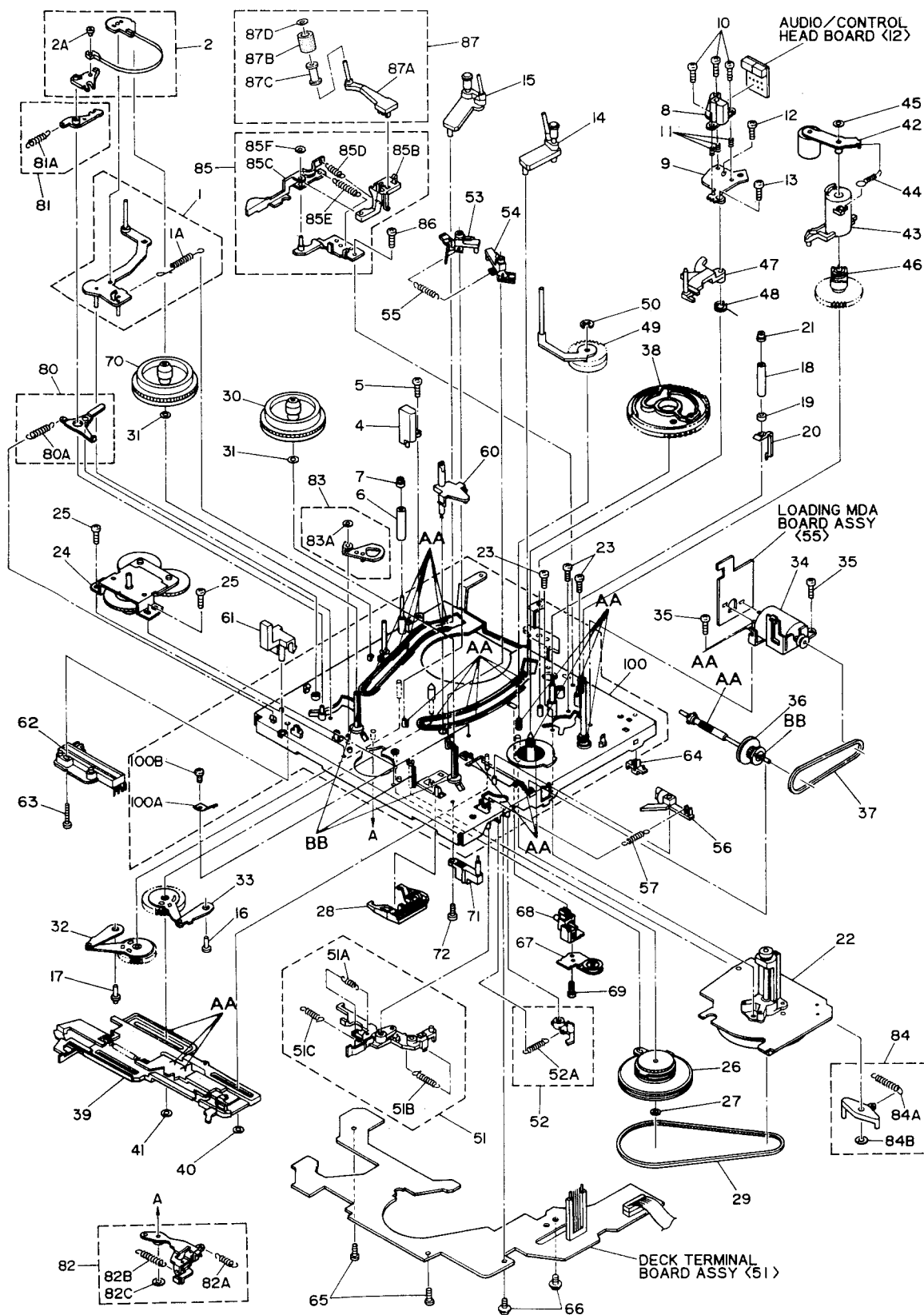
Δ REF No. PART No. PART NAME, DESCRIPTION

CABINET ASSEMBLY <M3>

Δ 1	PQ10995-2-9	BOTTOM CHASSIS
2	PDV2258A	DRUM ASSY
2A	PDM2083J	UPPER DRUM ASSY
2B	PDM4165A	DRUM SCREW ASSY
2C	PDM2138AG	LOWER DRUM MOTOR ASSY
2C1	PDZ0097	STATOR ASSY
2C2	SPSH1712Z	SCREW, X3
2C3	PDZ0097-3	ROTOR ASSY
2C5	SPSP2608N	SCREW, X2
2D	PDM4229A-1	BRUSH ASSY
2E	SPSG2606Z	SCREW

# Δ REF No.	PART No.	PART NAME, DESCRIPTION
2F	PDM4226A	ROLLER ASSY
3	SDST2610Z	SCREW, X3
11	SDST2608Z	SCREW, X4
12	PQ43831	SPECIAL SCREW
13	SDSG2606Z	SCREW
14	PQ21272-1-2	SHIELD CASE
15	SDSF3010Z	SCREW
16	PQ44230	INERTIA PLATE
17	SDSF3010Z	SCREW
18	SDSF3010Z	SCREW, X6 MAIN
19	SDSF3010M	SCREW, X4
20	SDSF3010Z	SCREW, X2
21	PQ44940-1-1	PLATE (EARTH)
25	PUS29499D	CASSETTE HOUSING ASSEMBLY

4.4 MECHANISAM ASSENBLY <M4>



NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

Category	Part number	MARK
Grease	KANTO-G-31KAV	AA
Oil	COSMO-HV56	BB

Δ REF No. PART No. PART NAME, DESCRIPTION

MECHANISM ASSEMBLY <M4>

1	PQ43497E-11	TENSION ARM ASSY
1A	PQ43500	TENSION SPRING
2	PQ44734A-6	TENSION BAND ASSY
2A	PQ45456	ADJUST PIN
4	PU60616	FULL ERASE HEAD
5	SDSF2614Z	SCREW
6	PQ43505-1-1	ROLLER
7	PQ43506	GUIDE POLE CAP
8	PU61002	AUDIO/CONTROL HEAD
9	PQ43509	HEAD BASE
10	PQ43687A	SPECIAL SCREW,X3
11	PQM30002-192	COMPRESSION SPRING,X3
12	SPSF2608M	SCREW
13	SPSP2606Z	SCREW
14	PU61103-2	POLE BASE (TU) ASSY
15	PU61151-2-3	POLE BASE (SUP) ASSY
16	PQ43524	STOPPER
17	PQ43525	STOPPER 2
18	PQ43526-1-3	TAPE GUIDE
19	PQ43670-1-1	GUIDE FLANGE
20	PQ43675	TAPE GUARD
21	PQ43506	GUIDE POLE CAP
Δ 22	PU61003-1-2	CAPSTAN MOTOR
23	SPSG2608Z	SCREW,X3
24	PU61246	IDLER GEAR UNIT
25	SPST2606Z	SCREW,X2
26	PU61245-1-1	CLUTCH UNIT
27	PQM30017-8	SLIT WASHER
28	PQ43532B	CHANGE LEVER ASSY
29	PU61006	TIMING BELT
30	PU60858-1-4	REEL DISK (TAKE-UP)
31	PQM30018-54	SPACER,X2
32	PQ43537A	LOADING ARM ASSY (SUPLY)
33	PQ43542B	LOADING ARM ASSY (TAKE-UP)
Δ 34	PQ43676B-5	MODE MOTOR ASSY
	or PQ43676C-7	MODE MOTOR ASSY
35	SPST2606Z	SCREW,X2
36	PQ43548A-3	WORM CLUTCH ASSY
37	PQM30003-23	BELT (LOADING)
38	PQ20822-2-4	CONTROL CAM
39	PQ44581A-6	PLATE ASSY
40	PQM30017-12	SLIT WASHER
41	PQM30017-8	SLIT WASHER
42	PQ43558A	PINCH ROLLER ARM ASSY
	or PQ43558B	PINCH ROLLER ARM ASSY
43	PQ32415	PINCH ROLLER PRESS LEVER
44	PQM30001-233	TENSION SPRING
45	PQM30017-12	SLIT WASHER
46	PQ32416-2	PINCH ROLLER CAM
47	PQ43567A-8	GUIDE ARM ASSY
48	PQ43569-1-3	TORSION SPRING
49	PQ43570A-2	HALF LOADING GEAR ASSY
50	PQM30017-12	SLIT WASHER
51	PQ43575A-5	CANCEL LEVER ASSY
51A	PQM30001-273	TENSION SPRING
51B	PQM30001-237	TENSION SPRING
51C	PQM30001-274	TENSION SPRING
52	PQ43578A-2	HOOK ASSY
52A	PQM30001-238	TENSION SPRING

# Δ REF No.	PART No.	PART NAME, DESCRIPTION
53	PQ43581C	MAIN BRAKE (SUPPLY) ASSY
54	PQ43582B	MAIN BRAKE (TAKE-UP) ASSY
55	PQM30001-251	TENSION SPRING
56	PQ43583A	SUB BRAKE ASSY (TAKE-UP)
57	PQM30001-298	TENSION SPRING
60	PU60621-1-2	LED HOLDER, (INCL.D1)
61	PU60624-1-4	REC SAFETY SWITCH
62	PU61247	SLIDE ENCORDER, (S3)
63	SDSF2614Z	SCREW
64	PQ32516	PWB HOLDER
65	SDST2616Z	SCREW, X2
66	GPSF2608Z	SCREW, X2
67	PQ43912A-7	PULLEY ARM ASSY
68	PQ33249	PULLEY BASE
69	PQ45121A	SCREW
70	PU60859-1-4	REEL DISK (SUPPLY)
71	PU61008	CASSETTE SW
72	SDST2608Z	SCREW
80	PQ44739A-1	LOCK LEVER 1 ASSY
80A	PQM30001-278-46	TENSION SPRING
81	PQ44741A-3	LOCK LEVER 2 ASSY
81A	PQM30001-279-52	TENSION SPRING
82	PQ44743A-7	IDLER LEVER ASSY
82A	PQM30001-344	TENSION SPRING
82B	PQM30001-301	TENSION SPRING
82C	PQM30017-5	SLIT WASHER
83	PQ44746A-2	OFF LEVER ASSY
83A	PQM30017-5	SLIT WASHER
84	PQ44585A-6	CAPSTAN BRAKE ASSY
84A	PQM30001-282-52	SPRING
84B	PQM30017-8	SLIT WASHER
85	PQ44843B	ARM BASE ASSY
85B	PQ33511-1-2	CLEANER ARM
85C	PQ44841-1-3	CANCEL LEVER
85D	PQM30001-299	TENSION SPRING
85E	PQM30001-300	TENSION SPRING
85F	PQM30017-5	SLIT WASHER
86	SPST2606Z	SCREW
87	PQ44840A-3	CLEANER BASE ASSY
87A	PQ44844A	CLEANER BASE SUB ASSY
87B	PQ44837	CLEANER
87C	PQ44838	CLEANER HOLDER
87D	PQM30017-38	SLIT WASHER
100	PQ20994B-4	MAIN DECK ASSY
	or PQ21232B	MAIN DECK ASSY
100A	PQ43849	EARTH PLATE
100B	SPST2604Z	SCREW

SECTION 5 ELECTRICAL PARTS LIST

SAFETY PRECAUTION

Parts identified by the Δ symbol are critical for safety. Replace only with specified part numbers.

Δ REF No. PART No. PART NAME, DESCRIPTION

SWITCHING REGULATOR BOARD ASSEMBLY<01><02>

PWBA	PB10559C-01	SW.REG PWB AY
POC1	QMP14B0-200TG	POWER CORD
	or QMP14B0-200TGJ5	POWER CORD
HD1	QHS3771-108	STRAIN RELIEF
AO1	QMC0242-007	AC OUTLET
BKT1	PQ21026-2-3	BRACKET(1)
BKT2	PQ21027-4-3	BRACKET(2)
BKT3	PQ33381	BRACKET(POWER)
ETH1	PQ44695	EARTH PLATE
SCW1	SDST3006Z	SCREW
SCW2	SDSG3008Z	SCREW
SLD1	PQ33382	SHIELD COVER(1)
SLD2	PQ33383	SHIELD COVER(2)

- SWITCHING REGULATOR BOARD ASSEMBLY <01> -

PWBA	PB10559C1-01	SW.REG ASS'Y
IC1	LM358P	IC
	or BA10358	IC
	or LM358N	IC
	or XRA10358	IC
Q1	2SC4130	P.TRANSISTOR
Q2	2SC3616(ML)	TRANSISTOR
Q4	2SB941P	TRANSISTOR
	or 2SA1488	TRANSISTOR
D1	RB-156LFB	DIODE
D2	AU01	FR DIODE
	or 1SR153-400-T2	FR DIODE
D3	AG01	FR DIODE
D4	AU01Z	FR DIODE
	or 1SR153-200-T2	FR DIODE
	or ERA18-02-T2	FR DIODE
D5	UZ20BSA	ZENER DIODE
	or RD20ES-T1B1	ZENER DIODE
D7	1SR153-200-T2	FR DIODE
D8	11ES2	DIODE
	or ERA15-02	DIODE
D9	1SR153-200-T2	FR DIODE

Δ REF No. PART No. PART NAME, DESCRIPTION

D10	MTZ30AT-77	ZENER DIODE	
	or RD30ES-T1B1	ZENER DIODE	
	or UZ30BSA	ZENER DIODE	
D11	AU01Z	FR DIODE	
	or 1SR153-200-T2	FR DIODE	
	or ERA18-02-T2	FR DIODE	
D13	HZ22CP	ZENER DIODE	
D14	FML-12S	FR DIODE	
	or MA649-VE	FR DIODE	
	or 5DL2CZ41A	FR DIODE	
	or FCF06A20	FR DIODE	
D15	1SR153-200-T2	FR DIODE	
D16	FMB-24	BARRIER DIODE	
	or F5KQ40B	BARRIER DIODE	
	or 5GWJ2CZ42	SB DIODE	
D18	UZ6.2BSA	ZENER DIODE	
	or MTZV6.2A	ZENER DIODE	
	or RD6.2ES-T1B1	ZENER DIODE	
D19	1SS133	DIODE	
	or MA165	DIODE	
Δ R1	QRC122K-225E	RESISTOR	2.2M Ω 1/2W
R2	QRM025K-1R0	MP RESISTOR	1.0K Ω 2W
R3	QRD161J-823	RESISTOR	82K Ω 1/6W
R4	QRD161J-823	RESISTOR	82K Ω 1/6W
R5	QRD161J-473	RESISTOR	47K Ω 1/6W
R6	QRG029J-433G	OMF RESISTOR	43K Ω 2W
R8	QRG029J-221G	OMF RESISTOR	220 Ω 2W
R9	QRX014J-R33Z	MF RESISTOR	0.33K Ω 1W
R10	QRD161J-122	RESISTOR	1.2K Ω 1/6W
R11	QRD161J-681	RESISTOR	680 Ω 1/6W
Δ R12	QRZ0077-470X	FUSIBLE RESISTOR	200 Ω 1/4W
R13	QRG029J-181G	OMF RESISTOR	180 Ω 2W
R14	QRD161J-103	RESISTOR	10K Ω 1/6W
R15	QRD161J-221	RESISTOR	220 Ω 1/6W
R16	QRV144F-8451AY	CMF RESISTOR	8.45K Ω 1/4W
R17	QRV144F-9761AY	CMF RESISTOR	9.76K Ω 1/4W
R18	QRD161J-102	RESISTOR	1K Ω 1/6W
R19	QRD161J-222	RESISTOR	2.2K Ω 1/6W
R21	QRV144E-9531AY	RESISTOR	95K Ω 1/4W
R22	QRV144E-9561AY	CMF RESISTOR	9.76K Ω 1/4W
R23	QRV144F-4423AY	CMF RESISTOR	442K Ω 1/4W
R24	QRD161J-471	RESISTOR	470 Ω 1/6W
Δ R26	QRZ0077-470X	FUSIBLE RESISTOR	200 Ω 1/4W
R27	QRD161J-222	RESISTOR	2.2K Ω 1/6W
R28	QRG029J-243A	OMF RESISTOR	24K Ω 2W
Δ C1	QFZ9022-333	MM CAPACITOR	0.033 μ F 125V
Δ	or QFZ9025-333	MM CAPACITOR	
Δ C2	QFZ9022-333	MM CAPACITOR	0.033 μ F 125V
Δ	or QFZ9025-333	MM CAPACITOR	

Δ REF No.	PART No.	PART NAME, DESCRIPTION	
R34	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R35	QRD161J-222	RESISTOR	2.2KΩ 1/6W
R36	QVZ3521-222Z	V RESISTOR,DC 5V	
	or QVZ3521-222	V RESISTOR	
R37	QRD161J-123	RESISTOR	12KΩ 1/6W
R38	QRV144F-1001A	CMF RESISTOR	1KΩ 1/4W
R39	QRV144F-1101AY	RESISTOR	11KΩ 1/4W
R40	QRD161J-103	RESISTOR	10KΩ 1/6W
R41	QRD161J-102	RESISTOR	1KΩ 1/6W
R44	QRD161J-103	RESISTOR	10KΩ 1/6W
R45	QRX014J-R27Z	MF RESISTOR	0.27KΩ 1W
R46	QRD161J-102	RESISTOR	1KΩ 1/6W
R49	QRD161J-752	RESISTOR	7.5KΩ 1/6W
C41	QETC0JM-107	E CAPACITOR	100μF 6.3V
C42	QETC0JM-107	E CAPACITOR	100μF 6.3V
C43	QETC1CM-107	E CAPACITOR	100μF 16V
C44	QETC1CM-107	E CAPACITOR	100μF 16V
C45	QETC1JM-106	E CAPACITOR	10μF 63V
C46	QFN31HJ-103	M CAPACITOR	0.01μF 50V
	or QFLA1HJ-103Z	M CAPACITOR	
C47	QETC1CM-107	E CAPACITOR	100μF 16V
C48	QETC1CM-107	E CAPACITOR	100μF 16V
HS1	PQ45237	HEAT SINK(2)	
SCW1	SDSG3008Z	SCREW,X2	
CN3	PU60417-110	CONNECTOR	
CN4	PU59555-104	CONNECTOR	
CN5	PU59555-103	CONNECTOR	

A/S/M BOARD ASSEMBLY <04>

PWBA	PB10585C-01	A/S/M BOARD ASSY
TB1	PQ21281-3	T. BOARD(2)
BKT1	PQ44693	BRACKET(1),X2
BKT2	PQ44694-1-2	BRACKET(2)
CL1	PEME0802	CLAMP,X2
JA1	PU61012	MINI JACK
JA3	PEMC0761	PIN JACK(SW)
JA4	PEMC0760	PIN JACK
JA5	PEMC0760	PIN JACK
SCW1	SDSG2606Z	SCREW,X3

Δ REF No. PART No. PART NAME, DESCRIPTION

SLD1 PQ33985 SHIELD COVER

TP PU55774 TEST PIN

- AUDIO SECTION -

IC1 JCP0028 IC
 IC2 M34225M2-110SP IC
 IC3 M5223P IC
 IC4 LA7222 IC
 IC5 LA7222 IC
 IC6 RE5RE50AA IC

IC201 XRA15218N IC
 or BA15218N IC

Q1 2SC3311A TRANSISTOR
 Q2 2SC4081(RS) TRANSISTOR
 Q3 2SC4081(RS) TRANSISTOR
 Q4 2SC4081(Q) TRANSISTOR
 Q5 2SC4081(Q) TRANSISTOR
 Q6 2SA1576(RS) TRANSISTOR

Q201 2SC4081(RS) TRANSISTOR
 Q202 2SC4081(RS) TRANSISTOR
 Q203 DTA114EU TRANSISTOR
 Q204 DTC114WU TRANSISTOR
 Q205 DTA114EU TRANSISTOR
 Q206 2SC4081(RS) TRANSISTOR
 Q207 DTC114WU TRANSISTOR
 Q208 DTC114WU TRANSISTOR
 Q209 DTC114WU TRANSISTOR
 Q210 DTC114WU TRANSISTOR

Q211 DTC114WU TRANSISTOR
 Q212 DTC114WU TRANSISTOR
 Q213 DTC114WU TRANSISTOR
 Q214 DTC114TU TRANSISTOR
 Q215 DTA114EU TRANSISTOR
 Q216 DTC114WU TRANSISTOR
 Q217 DTA114EU TRANSISTOR
 Q218 DTA114EU TRANSISTOR
 Q219 2SC4097(RS) TRANSISTOR

D1 MTZ7.5B ZENER DIODE
 D2 1SS133 DIODE
 or MA165 DIODE
 D3 1SS133 DIODE
 or MA165 DIODE
 D4 1SS133 DIODE
 or MA165 DIODE
 D5 1SS133 DIODE
 or MA165 DIODE
 D6 1SS133 DIODE
 or MA165 DIODE

#	Δ	REF No.	PART No.	PART NAME, DESCRIPTION	#	Δ	REF No.	PART No.	PART NAME, DESCRIPTION
D7			1SS133	DIODE	R51			QRSA08J-362YN	RESISTOR 3.6KΩ 1/10W
			or MA165	DIODE	R52			QRSA08J-153YN	RESISTOR 15KΩ 1/10W
D8			DAN202U	DIODE	R53			QRSA08J-562YN	RESISTOR 5.6KΩ 1/10W
D9			DAP202U	DIODE	R54			QVZ3523-103AZ	V RESISTOR,FO ADJ(L)
D10			1SS133	DIODE	R55			QRSA08J-103YN	RESISTOR 10KΩ 1/10W
			or MA165	DIODE	R56			QRSA08J-183YN	RESISTOR 18KΩ 1/10W
D11			1SS133	DIODE	R57			QRSA08J-103YN	RESISTOR 10KΩ 1/10W
			or MA165	DIODE	R58			QRSA08J-0R0Y	RESISTOR 0.0Ω 1/10W
					R60			QRSA08J-0R0Y	RESISTOR 0.0Ω 1/10W
D201			1SS133	DIODE	R61			QRSA08J-303YN	RESISTOR 30KΩ 1/10W
			or MA165	DIODE	R62			QRSA08J-103YN	RESISTOR 10KΩ 1/10W
D202			1SS133	DIODE	R63			QRSA08J-103YN	RESISTOR 10KΩ 1/10W
			or MA165	DIODE	R64			QRSA08J-103YN	RESISTOR 10KΩ 1/10W
D203			1SS133	DIODE	R65			QVZ3523-472A	V RESISTOR,FO ADJ(R)
			or MA165	DIODE	R66			QRSA08J-562YN	RESISTOR 5.6KΩ 1/10W
D204			1SS133	DIODE	R67			QRSA08J-153YN	RESISTOR 15KΩ 1/10W
			or MA165	DIODE	R68			QRSA08J-362YN	RESISTOR 3.6KΩ 1/10W
					R69			QRSA08J-202YN	RESISTOR 2KΩ 1/10W
R1			QRSA08J-122YN	RESISTOR 1.2KΩ 1/10W	R70			QVZ3523-473A	V RESISTOR,DEV.ADJ(R)
R2			QRSA08J-101YN	RESISTOR 100Ω 1/10W	R71			QRSA08J-513YN	RESISTOR 51KΩ 1/10W
R3			QRSA08J-102YN	RESISTOR 1KΩ 1/10W	R72			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W
R4			QRSA08J-102YN	RESISTOR 1KΩ 1/10W	R73			QRSA08J-511YN	RESISTOR 510Ω 1/10W
R5			QRSA08J-102YN	RESISTOR 1KΩ 1/10W	R74			QRSA08J-473YN	RESISTOR 47KΩ 1/10W
R6			QRSA08J-102YN	RESISTOR 1KΩ 1/10W	R79			QRSA08J-475YN	RESISTOR 4.7MΩ 1/10W
R7			QRSA08J-392YN	RESISTOR 3.9KΩ 1/10W	R80			QRSA08J-514YN	RESISTOR 510KΩ 1/10W
R8			QRSA08J-392YN	RESISTOR 3.9KΩ 1/10W					
R9			QRSA08J-392YN	RESISTOR 3.9KΩ 1/10W	R81			QRSA08J-334YN	RESISTOR 330KΩ 1/10W
R10			QRSA08J-392YN	RESISTOR 3.9KΩ 1/10W	R82			QRSA08J-222YN	RESISTOR 2.2KΩ 1/10W
					R83			QRSA08J-222YN	RESISTOR 2.2KΩ 1/10W
R13			QRSA08J-154YN	RESISTOR 150KΩ 1/10W	R84			QRSA08J-123YN	RESISTOR 12KΩ 1/10W
R14			QRSA08J-154YN	RESISTOR 150KΩ 1/10W	R85			QRSA08J-562YN	RESISTOR 5.6KΩ 1/10W
R15			QRSA08J-102YN	RESISTOR 1KΩ 1/10W	R86			QRSA08J-103YN	RESISTOR 10KΩ 1/10W
R16			QRSA08J-102YN	RESISTOR 1KΩ 1/10W	R87			QRSA08J-823YN	RESISTOR 82KΩ 1/10W
R17			QRSA08J-102YN	RESISTOR 1KΩ 1/10W	R88			QRSA08J-682YN	RESISTOR 6.8KΩ 1/10W
R18			QRSA08J-102YN	RESISTOR 1KΩ 1/10W	R89			QRSA08J-680YN	RESISTOR 68Ω 1/10W
R19			QRSA08J-102YN	RESISTOR 1KΩ 1/10W	R90			QRSA08J-103YN	RESISTOR 10KΩ 1/10W
R20			QRSA08J-332YN	RESISTOR 3.3KΩ 1/10W					
					R91			QRSA08J-123YN	RESISTOR 12KΩ 1/10W
R21			QRSA08J-332YN	RESISTOR 3.3KΩ 1/10W	R92			QRSA08J-562YN	RESISTOR 5.6KΩ 1/10W
R22			QRSA08J-151YN	RESISTOR 150Ω 1/10W	R93			QRSA08J-103YN	RESISTOR 10KΩ 1/10W
R23			QRSA08J-151YN	RESISTOR 150Ω 1/10W	R94			QRSA08J-823YN	RESISTOR 82KΩ 1/10W
R24			QRSA08J-682YN	RESISTOR 6.8KΩ 1/10W	R95			QRSA08J-682YN	RESISTOR 6.8KΩ 1/10W
R25			QRSA08J-302YN	RESISTOR 3KΩ 1/10W	R96			QRSA08J-680YN	RESISTOR 68Ω 1/10W
R26			QRSA08J-682YN	RESISTOR 6.8KΩ 1/10W	R97			QRSA08J-103YN	RESISTOR 10KΩ 1/10W
R27			QRSA08J-302YN	RESISTOR 3KΩ 1/10W	R98			QRSA08J-152YN	RESISTOR 1.5KΩ 1/10W
R28			QRSA08J-271YN	RESISTOR 270Ω 1/10W	R99			QRSA08J-132YN	RESISTOR 1.3KΩ 1/10W
					R100			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W
R31			QRSA08J-682YN	RESISTOR 6.8KΩ 1/10W					
R32			QRSA08J-302YN	RESISTOR 3KΩ 1/10W	R101			QRSA08J-222YN	RESISTOR 2.2KΩ 1/10W
R33			QRSA08J-682YN	RESISTOR 6.8KΩ 1/10W	R102			QRSA08J-182YN	RESISTOR 1.8KΩ 1/10W
R34			QRSA08J-302YN	RESISTOR 3KΩ 1/10W	R103			QRSA08J-102YN	RESISTOR 1KΩ 1/10W
R35			QRSA08J-271YN	RESISTOR 270Ω 1/10W	R104			QRSA08J-331YN	RESISTOR 330Ω 1/10W
R36			QRSA08J-473YN	RESISTOR 47KΩ 1/10W	R105			QRSA08J-473YN	RESISTOR 47KΩ 1/10W
R37			QRSA08J-473YN	RESISTOR 47KΩ 1/10W	R106			QRSA08J-473YN	RESISTOR 47KΩ 1/10W
					R107			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W
R45			QRSA08J-0R0Y	RESISTOR 0.0Ω 1/10W	R108			QRSA08J-103YN	RESISTOR 10KΩ 1/10W
R46			QRSA08J-511YN	RESISTOR 510Ω 1/10W	R109			QRSA08J-102YN	RESISTOR 1KΩ 1/10W
R47			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	R110			QRSA08J-102YN	RESISTOR 1KΩ 1/10W
R48			QRSA08J-513YN	RESISTOR 51KΩ 1/10W					
R49			QVZ3523-473A	V RESISTOR,DEV.ADJ(L)	R111			QRSA08J-0R0Y	RESISTOR 0.0Ω 1/10W
R50			QRSA08J-202YN	RESISTOR 2KΩ 1/10W					

Δ REF No.	PART No.	PART NAME, DESCRIPTION	
R112	QRSA08J-473YN	RESISTOR	47KΩ 1/10W
R113	QRSA08J-0R0Y	RESISTOR	0.0Ω 1/10W
R114	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R115	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R116	QRSA08J-393YN	RESISTOR	39KΩ 1/10W
R117	QRSA08J-472YN	RESISTOR	4.7KΩ 1/10W
R118	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R119	QRSA08J-153YN	RESISTOR	15KΩ 1/10W
R120	QRSA08J-123YN	RESISTOR	12KΩ 1/10W
R127	QRSA08J-101YN	RESISTOR	100Ω 1/10W
R128	QRSA08J-101YN	RESISTOR	100Ω 1/10W
R129	QRSA08J-272YN	RESISTOR	2.7KΩ 1/10W
R130	QRSA08J-272YN	RESISTOR	2.7KΩ 1/10W
R131	QRSA08J-334YN	RESISTOR	330KΩ 1/10W
R201	QRSA08J-100YN	RESISTOR	10Ω 1/10W
R202	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R203	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R204	QRSA08J-473YN	RESISTOR	47KΩ 1/10W
R205	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R206	QRSA08J-682YN	RESISTOR	6.8KΩ 1/10W
R209	QRSA08J-122YN	RESISTOR	1.2KΩ 1/10W
R210	QRSA08J-203YN	RESISTOR	20KΩ 1/10W
R211	QRSA08J-333YN	RESISTOR	33KΩ 1/10W
R212	QRSA08J-0R0Y	RESISTOR	0.0Ω 1/10W
R213	QRSA08J-562YN	RESISTOR	5.6KΩ 1/10W
R214	QRSA08J-562YN	RESISTOR	5.6KΩ 1/10W
R215	QRSA08J-562YN	RESISTOR	5.6KΩ 1/10W
R216	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R217	QRSA08J-274YN	RESISTOR	270KΩ 1/10W
R218	QRSA08J-561YN	RESISTOR	560Ω 1/10W
R219	QRSA08J-221YN	RESISTOR	220Ω 1/10W
R220	QRSA08J-473YN	RESISTOR	47KΩ 1/10W
R221	QRSA08J-473YN	RESISTOR	47KΩ 1/10W
R222	QRSA08J-562YN	RESISTOR	5.6KΩ 1/10W
R223	QRSA08J-562YN	RESISTOR	5.6KΩ 1/10W
R224	QRSA08J-821YN	RESISTOR	820Ω 1/10W
R225	QRSA08J-221YN	RESISTOR	220Ω 1/10W
R226	QRSA08J-330YN	RESISTOR	33Ω 1/10W
R227	QRSA08J-0R0Y	RESISTOR	0.0Ω 1/10W
R228	QRSA08J-561YN	RESISTOR	560Ω 1/10W
R229	QRSA08J-272YN	RESISTOR	2.7KΩ 1/10W
R230	QRSA08J-153YN	RESISTOR	15KΩ 1/10W
R231	QRSA08J-332YN	RESISTOR	3.3KΩ 1/10W
R232	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R233	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R234	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R235	QRSA08J-473YN	RESISTOR	47KΩ 1/10W
R236	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R237	QRSA08J-392YN	RESISTOR	3.9KΩ 1/10W
R238	QRSA08J-153YN	RESISTOR	15KΩ 1/10W
R239	QVZ3518-473A	V RESISTOR, BIAS ADJ	
R240	QRSA08J-223YN	RESISTOR	22KΩ 1/10W
R241	QRSA08J-100YN	RESISTOR	10Ω 1/10W
R242	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R243	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R244	QRSA08J-0R0Y	RESISTOR	0.0Ω 1/10W

# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
C1	QETC1CM-107	E CAPACITOR	100μF 16V
C2	QETC1EM-475	E CAPACITOR	4.7μF 25V
C3	QETC1EM-475	E CAPACITOR	4.7μF 25V
C4	QETC1CM-226	E CAPACITOR	22μF 16V
C5	QETC1CM-226	E CAPACITOR	22μF 16V
C6	QETC1CM-106	E CAPACITOR	10μF 16V
C7	QETC1CM-226	ECAPACITOR	22μF 16V
C8	QETC1CM-226	E CAPACITOR	22μF 16V
C9	QETC1CM-476	E CAPACITOR	47μF 16V
C13	QETC1CM-226	E CAPACITOR	22μF 16V
C14	QETC1CM-226	E CAPACITOR	22μF 16V
C15	QETC1CM-476	E CAPACITOR	47μF 16V
C21	QCFA1EZ-104	CAPACITOR	0.1μF 25V
C22	QFLA1HJ-473Z	M CAPACITOR	0.047μF 50V
C23	QETC1AM-336	E CAPACITOR	33μF 10V
C24	QETC1HM-225	E CAPACITOR	2.2μF 50V
C25	QFLA1HJ-333Z	M CAPACITOR	0.033μF 50V
C26	QENC1CM-106	NP E CAPACITOR	10μF 16V
C27	QETC1CM-106	E CAPACITOR	10μF 16V
C28	QENC1HM-225	NP E CAP	2.2μF 50V
C29	QFLA1HJ-103Z	M CAPACITOR	0.01μF 50V
C30	QETC1AM-107	E CAPACITOR	100μF 10V
C31	QCSA1HJ-102	CAPACITOR	0.001μF 50V
C32	QFLA1HJ-104Z	M CAPACITOR	0.1μF 50V
C33	QFLA1HJ-222Z	M CAPACITOR	0.0022μF 50V
C34	QCSA1HJ-821	CAPACITOR	820PF 50V
C35	QFLA1HJ-392Z	M CAPACITOR	0.0039μF 50V
C37	QETC1HM-105	E CAPACITOR	1μF 50V
C39	QCSA1HJ-561	CAPACITOR	560PF 50V
C40	QCYA1HK-103	CAPACITOR	0.01μF 50V
C41	QETC1AM-476	ECAPACITOR	47μF 10V
C42	QCFA1HZ-103	CAPACITOR	0.01μF 50V
C45	QFLA1HJ-392Z	M CAPACITOR	0.0039μF 50V
C46	QCSA1HJ-821	CAPACITOR	820PF 50V
C47	QFLA1HJ-222Z	M CAPACITOR	0.0022μF 50V
C48	QFLA1HJ-104Z	M CAPACITOR	0.1μF 50V
C49	QCSA1HJ-102	CAPACITOR	0.001μF 50V
C50	QETC1AM-107	E CAPACITOR	100μF 10V
C51	QFLA1HJ-103Z	M CAPACITOR	0.01μF 50V
C52	QENC1HM-225	NP E CAP	2.2μF 50V
C53	QETC1CM-106	E CAPACITOR	10μF 16V
C54	QENC1CM-106	E CAPACITOR	10μF 16V
C55	QFLA1HJ-333Z	M CAPACITOR	0.033μF 50V
C56	QETC1HM-225	E CAPACITOR	2.2μF 50V
C57	QETC1AM-336	E APACITOR	33μF 10V
C58	QFLA1HJ-473Z	M CAPACITOR	0.047μF 50V
C61	QETC1CM-106	E CAPACITOR	10μF 16V
C62	QETC1CM-106	E CAPACITOR	10μF 16V
C63	QETC1CM-106	E CAPACITOR	10μF 16V
C64	QETC1CM-226	E CAPACITOR	22μF 16V
C65	QETC1CM-106	E CAPACITOR	10μF 16V
C66	QETC1CM-106	E CAPACITOR	10μF 16V
C67	QETC1AM-107	E CAPACITOR	100μF 10V
C68	QETC0JM-107	E CAPACITOR	100μF 6.3V
C69	QETC0JM-107	E CAPACITOR	100μF 6.3V

# Δ REF No.	PART No.	PART NAME, DESCRIPTION		# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
C70	QETC1CM-476	E CAPACITOR	47μF 16V	L1	PELN0530-101JZ	COIL	100μH
C71	QETC1AM-476	E CAPACITOR	47μF 10V	L2	PELN0530-101JZ	COIL	100μH
C72	QETC1CM-106	E CAPACITOR	10μF 16V	L3	PELN0530-101JZ	COIL	100μH
C73	QETC1CM-476	E CAPACITOR	47μF 16V	L4	PELN0530-101JZ	COIL	100μH
C74	QETC1CM-476	E CAPACITOR	47μF 16V	L5	PELN0530-101JZ	COIL	100μH
C75	QETC1CM-476	E CAPACITOR	47μF 16V	L6	PELN0530-101JZ	COIL	100μH
C76	QETC1CM-476	E CAPACITOR	47μF 16V	L201	PU58308-682J	COIL	6800μH
C77	QCFA1HZ-104	CAPACITOR	0.1μF 50V				
C78	QETC1CM-106	E CAPACITOR	10μF 16V	BPF1	PU60396	BAND PASS FILTER	
C79	QETC1CM-106	E CAPACITOR	10μF 16V	BPF2	PU60397	BAND PASS FILTER	
C80	QCC11EJ-104	CAPACITOR	0.1μF 25V				
C81	QETC1AM-336	E CAPACITOR	33μF 10V				
C82	QCC11EJ-104	CAPACITOR	0.1μF 25V	Δ CF1	PEVB0352	RESONATOR	
C83	QETC1AM-336	E CAPACITOR	33μF 10V				
C84	QETC1AM-107	E CAPACITOR	100μF 10V	T201	PELN0531	OSC TRANSFORMER	
C85	QETC1CM-106	E CAPACITOR	10μF 16V				
C86	QCSA1HJ-102	CAPACITOR	0.001μF 50V	CN1	PU59555-2	CONNECTOR	
C87	QCSA1HJ-102	CAPACITOR	0.001μF 50V	CN2	PU60417-6	CONNECTOR	
C88	QETC1HM-105	E CAPACITOR	1μF 50V	CN3	PU60417-3	CONNECTOR	
C89	QCYA1HK-221	CAPACITOR	220PF 50V	CN4	PU60417-3	CONNECTOR	
C90	QCYA1HK-221	CAPACITOR	220PF 50V	CN5	PU58844-4	CONNECTOR	
C91	QETC1AM-476	E CAPACITOR	47μF 10V	CN6	PU59555-2	CONNECTOR	
C92	QCC11EJ-104	CAPACITOR	0.1μF 25V	CN8	PU60417-4	CONNECTOR	
C93	QETC1AM-336	E CAPACITOR	33μF 10V	CN9	PEMC0723-012	B TO B CONN	
C100	QFLA1HJ-822Z	M CAPACITOR	0.0082μF 50V	CN10	PU60417-3	CONNECTOR	
C101	QFLA1HJ-822Z	M CAPACITOR	0.0082μF 50V				
C102	QEK61HM-105	E CAPACITOR	1μF 50V	CN11	PU59555-3	CONNECTOR	
C103	QCVB1CN-103	CAPACITOR	0.01μF 16V	CN12	PU59555-2	CONNECTOR	
C104	QCVB1CN-103	CAPACITOR	0.01μF 16V	TP	PU55774	TEST PIN	
C105	QFV11HJ-104	MM CAPACITOR	0.1μF 50V	- SERVO SECTION -			
C201	QETC1HM-105	E CAPACITOR	1μF 50V	IC401	HD49733NT	IC	
C202	QCYA1HK-332	CAPACITOR	0.0033μF 50V		or HD49733ANT	IC	
C203	QCSA1HJ-821	CAPACITOR	820PF 50V	IC451	BA7039	IC	
C204	QETC1CM-107	E CAPACITOR	100μF 16V		or XRA7039	IC	
C205	QETC1CM-476	E CAPACITOR	47μF 16V				
C206	QCSA1HJ-471	CAPACITOR	470PF 50V	Q401	2SA1576(QRS)	TRANSISTOR	
C207	QFLA1HJ-123Z	M CAPACITOR	0.012μF 50V				
C208	QETC1HM-224	E CAPACITOR	0.22μF 50V				
C209	QETC1CM-226	E CAPACITOR	22μF 16V				
C210	PU60550-105	E CAPACITOR	1μF 50V				
C211	QETC1HM-105	E CAPACITOR	1μF 50V	D402	1SS133	DIODE	
C212	QETC1CM-106	E CAPACITOR	10μF 16V		or MA165	DIODE	
C213	QETC1CM-106	E CAPACITOR	10μF 16V	D403	1SS133	DIODE	
C214	QFLA1HJ-153Z	M CAPACITOR	0.015μF 50V		or MA165	DIODE	
C215	QFV71HJ-333	TF CAPACITOR	0.033μF 50V	D404	1SS133	DIODE	
C216	QFLA1HJ-393Z	M CAPACITOR	0.039μF 50V		or MA165	DIODE	
C217	QFLA1HJ-103Z	M CAPACITOR	0.01μF 50V	D405	1SS133	DIODE	
C218	QFLA1HJ-183Z	M CAPACITOR	0.018μF 50V		or MA165	DIODE	
C219	QCFA1HZ-103	CAPACITOR	0.01μF 50V	D406	1SS133	DIODE	
C220	QCSA1HJ-331	CAPACITOR	330PF 50V		or MA165	DIODE	
C221	QFLA1HJ-473Z	M CAPACITOR	0.047μF 50V	D411	1SS133	DIODE	
C222	QCC11EJ-332	CAPACITOR	0.0033μF 25V		or MA165	DIODE	
C223	QCC11EJ-682	CAPACITOR	0.0068μF 25V	D412	1SS133	DIODE	
C224	QETC1CM-106	E CAPACITOR	10μF 16V		or MA165	DIODE	
				R401	QRSA08J-821YN	RESISTOR	820Ω 1/10W
				R402	QRSA08J-102YN	RESISTOR	1KΩ 1/10W

Δ REF No.	PART No.	PART NAME, DESCRIPTION	
R403	QRSA08J-105YN	RESISTOR	1.0MΩ 1/10W
R404	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R405	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R406	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R407	QRSA08J-823YN	RESISTOR	82KΩ 1/10W
R408	QRSA08J-105YN	RESISTOR	1.0MΩ 1/10W
R409	QRSA08J-104YN	RESISTOR	100KΩ 1/10W
R410	QRSA08J-222YN	RESISTOR	2.2KΩ 1/10W
R411	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R412	QRSA08J-273YN	RESISTOR	27KΩ 1/10W
R413	QRSA08J-682YN	RESISTOR	6.8KΩ 1/10W
R414	QRSA08J-105YN	RESISTOR	1.0MΩ 1/10W
R415	QRSA08J-473YN	RESISTOR	47KΩ 1/10W
R416	QRSA08J-224YN	RESISTOR	220KΩ 1/10W
R418	QRSA08J-224YN	RESISTOR	220KΩ 1/10W
R419	QRSA08J-823YN	RESISTOR	82KΩ 1/10W
R420	QRSA08J-105YN	RESISTOR	1.0MΩ 1/10W
R421	QRSA08J-393YN	RESISTOR	39KΩ 1/10W
R422	QRSA08J-822YN	RESISTOR	8.2KΩ 1/10W
R423	QRSA08J-105YN	RESISTOR	1.0MΩ 1/10W
R424	QRSA08J-124YN	RESISTOR	120KΩ 1/10W
R425	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R426	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R427	QVZ3518-473A	V RESISTOR, PB SW POINT	
R428	QRSA08J-472YN	RESISTOR	4.7KΩ 1/10W
R429	QRSA08J-104YN	RESISTOR	100KΩ 1/10W
R430	QRSA08J-225YN	RESISTOR	2.2MΩ 1/10W
R434	QRSA08J-333YN	RESISTOR	33KΩ 1/10W
R435	QRSA08J-333YN	RESISTOR	33KΩ 1/10W
R451	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R452	QRSA08J-562YN	RESISTOR	5.6KΩ 1/10W
R453	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R455	QRSA08J-153YN	RESISTOR	15KΩ 1/10W
R456	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R458	QRSA08J-104YN	RESISTOR	100KΩ 1/10W
R489	QRSA08J-0R0Y	RESISTOR	0.0Ω 1/10W
R491	QRSA08J-0R0Y	RESISTOR	0.0Ω 1/10W
C401	QCYA1HK-102	CAPACITOR	0.001μF 50V
C402	QETC1CM-226	E CAPACITOR	22μF 16V
C403	QETC1CM-226	E CAPACITOR	22μF 16V
C405	QCTA1CH-101	CAPACITOR	100PF 16V
C406	QCYA1HK-102	CAPACITOR	0.001μF 50V
C407	QETC1HM-105	E CAPACITOR	1μF 50V
C408	QCYA1HK-102	CAPACITOR	0.001μF 50V
C409	QCC31CK-563	CAPACITOR	0.056μF 16V
C410	QCYA1HK-102	CAPACITOR	0.001μF 50V
C412	QCYA1EK-223	CAPACITOR	0.022μF 25V
C413	QETC1CM-226	E CAPACITOR	22μF 16V
C414	QFV71HJ-104	TF CAPACITOR	0.1μF 50V
	or QFN31HJ-104	M CAPACITOR	0.1μF 50V
C415	QFLC1HJ-472Z	MCAPACITOR	0.0047μF 50V
	or QFN31HJ-472	M CAPACITOR	0.0047μF 50V
C416	QETC1EM-475	E CAPACITOR	4.7μF 25V
C417	QETC1EM-475	E CAPACITOR	4.7μF 25V
C418	QETC1CM-106	E CAPACITOR	10μF 16V

# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
C419	QETC1CM-106	E CAPACITOR	10μF 16V
C420	QFV71HJ-473	TF CAPACITOR	0.047μF 50V
C420	or QFN31HJ-473	M CAPACITOR	
C421	QEN61HM-105	NP E CAPACITOR	0.1μF 50V
C422	QCTA1CH-101	CAPACITOR	100PF 16V
C423	QFV71HJ-683	TF CAPACITOR	0.068μF 50V
C426	QCTA1CH-181	CAPACITOR	180PF 16V
C451	QCYA1EK-103	CAPACITOR	0.01μF 25V
C452	QCYA1EK-103	CAPACITOR	0.01μF 25V
C453	QCYA1EK-103	CAPACITOR	0.01μF 25V
C454	QCC31CK-104	CAPACITOR	0.1μF 16V
C455	QCYA1EK-103	CAPACITOR	0.01μF 25V
C456	QFV71HJ-473	TFCAPACITOR	0.047μF 50V
C457	QCYA1EK-103	CAPACITOR	0.01μF 25V
C458	QETC1CM-226	E CAPACITOR	22μF 16V
C459	QCYA1EK-103	CAPACITOR	0.01μF 25V
L451	PU59152-270J	COIL	27μH
TP401	PU55774	TEST PIN	
CN401	PU58844-3	CONNECTOR	
CN402	PU59555-4	CONNECTOR	
CN403	PU59555-7	CONNECTOR	
CN404	PU60417-3	CONNECTOR	
CN405	PU60417-9	CONNECTOR	
Δ CP401	ICP-N15	CIRCUIT PROTECTOR	
- MECHACON SECTION -			
IC601	M37524M4-116SP	IC	
Q601	2SB1256	TRANSISTOR	
Q602	DTC114TU	TRANSISTOR	
D601	1SS133	DIODE	
	or MA165	DIODE	
D602	1SS133	DIODE	
	or MA165	DIODE	
D603	1SS133	DIODE	
	or MA165	DIODE	
D604	1SS133	DIODE	
	or MA165	DIODE	
D605	MTZ7.5B	ZENER DIODE	
	or HZS7.5EB2	ZENER DIODE	
D606	11E2	DIODE	
	or 11ES2	DIODE	
D607	S5688G	DIODE	
	or 1SR139-200	DIODE	
	or 11ES2	DIODE	
	or ERA15-02	DIODE	
R601	QRSA08J-102YN	RESISTOR	1KΩ 1/10W

#	Δ	REF No.	PART No.	PART NAME, DESCRIPTION	#	Δ	REF No.	PART No.	PART NAME, DESCRIPTION
R602			QRSA08J-102YN	RESISTOR 1KΩ 1/10W	C601			QCC11EK-223	CAPACITOR 0.022μF 25V
R603			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	C602			QEK61EM-335	E CAPACITOR 3.3μF 25V
R604			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	C603			QCC11EK-473	CAPACITOR 0.047μF 25V
R605			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	C604			QEK61HM-105	E CAPACITOR 1μF 50V
R606			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	C605			QETC0JM-107	E CAPACITOR 100μF 6.3V
R607			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	C606			QCTA1CH-220	CAPACITOR 22PF 16V
R608			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	C610			QCC11EK-104	CAPACITOR 0.1μF 25V
R609			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W					
R610			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W					
R611			QRSA08J-824YN	RESISTOR 820KΩ 1/10W	L601			PU59152-100J	COIL 10μH
R612			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	L602			PU59988-221J	COIL 220μH
R613			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	L603			PU59988-221J	COIL 220μH
R614			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W					
R615			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	Δ CF601			PEVB0340	RESONATOR
R616			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W					
R617			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W					
R618			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	Δ TH601			PESC1041	POSI THERMISTOR
R619			QRSA08J-102YN	RESISTOR 1KΩ 1/10W					
R620			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W					
R621			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	CN601			PEMC0722-018	WIRE TRAP
R622			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W				or PEMC0753-018	WIRE TRAP
R623			QRSA08J-105YN	RESISTOR 1.0MΩ 1/10W	CN602			PU59555-4	CONNECTOR
R624			QRSA08J-681YN	RESISTOR 680Ω 1/10W	CN603			PU60417-10	CONNECTOR
R625			QRSA08J-103YN	RESISTOR 10KΩ 1/10W	CN604			PU60417-8	CONNECTOR
R626			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	CN605			PEMC0723-005	B TO B CONN
R627			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	CN606			PU60417-5	CONNECTOR
R628			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	CN609			PEMC0714-004	CONNECTOR
R629			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W	Δ CP601			ICP-N20	CP
R630			QRSA08J-332YN	RESISTOR 3.3KΩ 1/10W					
R631			QRSA08J-332YN	RESISTOR 3.3KΩ 1/10W					
R632			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W					
R633			QRSA08J-102YN	RESISTOR 1KΩ 1/10W					
R634			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W					
R635			QRSA08J-102YN	RESISTOR 1KΩ 1/10W					
R636			QRSA08J-102YN	RESISTOR 1KΩ 1/10W					
R637			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W					
R638			QRSA08J-103YN	RESISTOR 10KΩ 1/10W					
R639			QRSA08J-103YN	RESISTOR 10KΩ 1/10W					
R640			QRSA08J-103YN	RESISTOR 10KΩ 1/10W					
R641			QRSA08J-333YN	RESISTOR 33KΩ 1/10W					
R642			QRSA08J-471YN	RESISTOR 470Ω 1/10W					
R645			QRSA08J-303YN	RESISTOR 30KΩ 1/10W					
R646			QRSA08J-224YN	RESISTOR 220KΩ 1/10W					
R647			QRSA08J-154YN	RESISTOR 150KΩ 1/10W					
R648			QRSA08J-563YN	RESISTOR 56KΩ 1/10W					
R649			QRSA08J-472YN	RESISTOR 4.7KΩ 1/10W					
R650			QRD161J-472	RESISTOR 4.7KΩ 1/6W					
R651			QRSA08J-222YN	RESISTOR 2.2KΩ 1/10W					
R652			QRSA08J-333YN	RESISTOR 33KΩ 1/10W					
R653			QRSA08J-0R0Y	RESISTOR 0.0Ω 1/10W					
R691			QRD161J-472	RESISTOR 4.7KΩ 1/6W					
RA601			QRB055J-103M	RESISTOR ARRAY					
RA601			or QRB055J-103F	RESISTOR ARRAY					

Δ REF No. PART No. PART NAME, DESCRIPTION

Q1 2SA933S(RS) TRANSISTOR
Q2 DTC144WS TRANSISTOR
Q3 DTC144WS TRANSISTOR
Q4 2SA933S(S) TRANSISTOR
Q5 2SA854S(R) TRANSISTOR
Q6 2SA854S(R) TRANSISTOR
Q7 2SA854S(R) TRANSISTOR
Q8 2SA933S(RS) TRANSISTOR
Q9 DTC144WS TRANSISTOR
Q10 DTA124ES TRANSISTOR

Q11 DTC144ES TRANSISTOR
Q12 DTC144ES TRANSISTOR
Q13 2SC1740S(QRS) TRANSISTOR
Q14 2SA933S(RS) TRANSISTOR
Q15 2SC1740S(QRS) TRANSISTOR

Q201 2SA933S(RS) TRANSISTOR
Q202 2SC1740S(S) TRANSISTOR
Q203 2SC1740S(S) TRANSISTOR
Q209 2SC1740S(QRS) TRANSISTOR
Q210 2SC1740S(QRS) TRANSISTOR

Q211 2SC1740S(QRS) TRANSISTOR
Q212 2SC1740S(QRS) TRANSISTOR
Q213 2SC1740S(QRS) TRANSISTOR
Q214 2SC1740S(QRS) TRANSISTOR
Q215 2SC1740S(QRS) TRANSISTOR
Q216 2SC1740S(QRS) TRANSISTOR
Q217 2SC1740S(QRS) TRANSISTOR
Q218 2SC1740S(QRS) TRANSISTOR
Q219 2SC1740S(QRS) TRANSISTOR
Q220 2SC1740S(QRS) TRANSISTOR

Q221 DTA124ES TRANSISTOR
Q222 2SC1740S(QRS) TRANSISTOR

Q401 2SC1740S(QRS) TRANSISTOR
Q402 2SC1740S(QRS) TRANSISTOR
Q403 2SC1740S(QRS) TRANSISTOR
Q405 2SA933S(RS) TRANSISTOR
Q406 2SA933S(RS) TRANSISTOR
Q407 2SC1740S(QRS) TRANSISTOR
Q408 2SC1740S(QRS) TRANSISTOR
Q409 2SA933S(RS) TRANSISTOR
Q410 DTA124ES TRANSISTOR

Q411 DTC124ES TRANSISTOR
Q412 DTC144WS TRANSISTOR
Q413 DTC124ES TRANSISTOR
Q414 DTC144ES TRANSISTOR
Q415 DTC144ES TRANSISTOR
Q416 DTC124ES TRANSISTOR

Q601 2SC1740S(QRS) TRANSISTOR
Q602 2SC1740S(QRS) TRANSISTOR
Q605 2SA933S(RS) TRANSISTOR
Q606 DTA124ES TRANSISTOR
Q607 2SA933S(RS) TRANSISTOR
Q608 2SC1740S(QRS) TRANSISTOR
Q609 DTC144ES TRANSISTOR

Δ REF No. PART No. PART NAME, DESCRIPTION

Q610 2SC1740S(QRS) TRANSISTOR

Q611 2SC1740S(QRS) TRANSISTOR
Q612 2SC1740S(QRS) TRANSISTOR
Q613 2SA933S(RS) TRANSISTOR
Q614 DTC124ES TRANSISTOR
Q615 2SC1740S(S) TRANSISTOR

Q901 DTC144ES TRANSISTOR
Q902 DTC114ES TRANSISTOR
Q903 DTC144ES TRANSISTOR
Q904 2SK656 FE TRANSISTOR
Q905 DTA114ES TRANSISTOR
Q906 DTA114ES TRANSISTOR
Q907 2SA933S(RS) TRANSISTOR
Q908 2SC1740S(QRS) TRANSISTOR
Q909 DTC144WS TRANSISTOR
Q910 DTC124ES TRANSISTOR

Q911 DTC124ES TRANSISTOR
Q912 DTC124ES TRANSISTOR
Q913 2SA933S(RS) TRANSISTOR
Q914 2SC1740S(QRS) TRANSISTOR
Q915 2SA933S(RS) TRANSISTOR
Q916 2SC1740S(QRS) TRANSISTOR
Q917 2SC1740S(QRS) TRANSISTOR
Q918 2SA933S(RS) TRANSISTOR
Q919 2SC1740S(QRS) TRANSISTOR
Q920 2SC1740S(QRS) TRANSISTOR

Q921 2SA933S(RS) TRANSISTOR
Q922 2SA933S(RS) TRANSISTOR
Q923 2SC1740S(QRS) TRANSISTOR
Q924 2SA933S(RS) TRANSISTOR
Q925 DTC144WS TRANSISTOR

D1 1SS133 DIODE
or MA165 DIODE
D3 1SS133 DIODE
or MA165 DIODE
D4 1SS133 DIODE
or MA165 DIODE
D5 1SS133 DIODE
or MA165 DIODE
D7 1SS133 DIODE
or MA165 DIODE
D8 1SS133 DIODE
or MA165 DIODE

D204 1SS133 DIODE
or MA165 DIODE
D205 1SS133 DIODE
or MA165 DIODE

D401 1SS133 DIODE
or MA165 DIODE
D402 1SS133 DIODE
or MA165 DIODE
D403 1SS133 DIODE
or MA165 DIODE
D405 1SS133 DIODE
or MA165 DIODE

#	Δ	REF No.	PART No.	PART NAME, DESCRIPTION	#	Δ	REF No.	PART No.	PART NAME, DESCRIPTION
D406			1SS133	DIODE	R13			QRD161J-750	RESISTOR 75Ω 1/6W
			or MA165	DIODE	R15			QRD161J-122	RESISTOR 1.2KΩ 1/6W
D408			1SS133	DIODE	R16			QRD123J-391SX	RESISTOR 390Ω 1/2W
			or MA165	DIODE	R17			QRD161J-750	RESISTOR 75Ω 1/6W
D409			1SS133	DIODE	R18			QRD123J-391SX	RESISTOR 390Ω 1/2W
D409			or MA165	DIODE	R19			QRD161J-750	RESISTOR 75Ω 1/6W
					R20			QRD123J-391SX	RESISTOR 390Ω 1/2W
D411			1SS133	DIODE					
			or MA165	DIODE	R21			QRD161J-391	RESISTOR 390Ω 1/6W
					R22			QRD161J-124	RESISTOR 120KΩ 1/6W
D603			1SS133	DIODE	R23			QRD161J-154	RESISTOR 150KΩ 1/6W
			or MA165	DIODE	R24			QRD161J-332	RESISTOR 3.3KΩ 1/6W
D604			1SS133	DIODE	R25			QRD161J-162	RESISTOR 1.6KΩ 1/6W
			or MA165	DIODE	R26			QRD161J-561	RESISTOR 560Ω 1/6W
D605			1SS133	DIODE	R27			QRD161J-561	RESISTOR 560Ω 1/6W
			or MA165	DIODE	R28			QRD161J-681	RESISTOR 680Ω 1/6W
D606			1SS133	DIODE	R29			QRD161J-102	RESISTOR 1KΩ 1/6W
			or MA165	DIODE	R30			QRD161J-222	RESISTOR 2.2KΩ 1/6W
D607			1SS133	DIODE					
			or MA165	DIODE	R31			QRD161J-103	RESISTOR 10KΩ 1/6W
D608			1SS292Y	DIODE	R32			QVZ3518-103AZ	V RESISTOR, AGC LEVEL 2
D609			1SS133	DIODE	R33			QRD161J-152	RESISTOR 1.5KΩ 1/6W
			or MA165	DIODE	R34			QRD161J-103	RESISTOR 10KΩ 1/6W
D610			1SS133	DIODE	R35			QRD161J-102	RESISTOR 1KΩ 1/6W
			or MA165	DIODE	R36			QRD161J-102	RESISTOR 1KΩ 1/6W
					R37			QRD161J-102	RESISTOR 1KΩ 1/6W
D611			1SS133	DIODE	R38			QRD161J-102	RESISTOR 1KΩ 1/6W
			or MA165	DIODE	R39			QRD161J-562	RESISTOR 5.6KΩ 1/6W
D901			1SS133	DIODE	R41			QRD161J-223	RESISTOR 22KΩ 1/6W
			or MA165	DIODE	R42			QRD161J-223	RESISTOR 22KΩ 1/6W
D902			1SS133	DIODE	R43			QRD161J-750	RESISTOR 75Ω 1/6W
			or MA165	DIODE	R44			QRD161J-223	RESISTOR 22KΩ 1/6W
D903			1SS133	DIODE	R45			QRD161J-103	RESISTOR 10KΩ 1/6W
			or MA165	DIODE	R46			QRD161J-103	RESISTOR 10KΩ 1/6W
D904			1SS133	DIODE	R47			QRD161J-391	RESISTOR 390Ω 1/6W
			or MA165	DIODE	R48			QRD161J-221	RESISTOR 220Ω 1/6W
D905			1SS133	DIODE	R49			QRD161J-911	RESISTOR 910Ω 1/6W
			or MA165	DIODE	R50			QRD161J-223	RESISTOR 22KΩ 1/6W
D906			1SS133	DIODE					
			or MA165	DIODE	R51			QRD161J-183	RESISTOR 18KΩ 1/6W
D907			1SS133	DIODE	R52			QRD161J-332	RESISTOR 3.3KΩ 1/6W
			or MA165	DIODE	R53			QRD161J-103	RESISTOR 10KΩ 1/6W
D908			1SS133	DIODE	R54			QRD161J-104	RESISTOR 100KΩ 1/6W
			or MA165	DIODE	R55			QRD161J-822	RESISTOR 8.2KΩ 1/6W
D909			1SS133	DIODE	R59			QRD161J-101	RESISTOR 100Ω 1/6W
			or MA165	DIODE	R60			QRD161J-101	RESISTOR 100Ω 1/6W
D910			1SS133	DIODE					
					R61			QRD161J-101	RESISTOR 100Ω 1/6W
R1			QRD161J-393	RESISTOR 39KΩ 1/6W	R62			QRD161J-564	RESISTOR 560KΩ 1/6W
R2			QRD161J-561	RESISTOR 560Ω 1/6W	R63			QRD161J-102	RESISTOR 1KΩ 1/6W
R3			QRD161J-331	RESISTOR 330Ω 1/6W					
R4			QRD161J-332	RESISTOR 3.3KΩ 1/6W	R201			QRD161J-202	RESISTOR 2KΩ 1/6W
R5			QRD161J-333	RESISTOR 33KΩ 1/6W	R202			QRD161J-202	RESISTOR 2KΩ 1/6W
R6			QRD161J-103	RESISTOR 10KΩ 1/6W	R203			QRD161J-222	RESISTOR 2.2KΩ 1/6W
R7			QRD161J-103	RESISTOR 10KΩ 1/6W	R204			QRD161J-105	RESISTOR 1.0MΩ 1/6W
R8			QRD161J-223	RESISTOR 22KΩ 1/6W	R205			QRD161J-823	RESISTOR 82KΩ 1/6W
R9			QRD161J-750	RESISTOR 75Ω 1/6W	R206			QRD161J-102	RESISTOR 1KΩ 1/6W
R10			QRD161J-103	RESISTOR 10KΩ 1/6W	R207			QRD161J-102	RESISTOR 1KΩ 1/6W
					R209			QRD161J-102	RESISTOR 1KΩ 1/6W
R11			QRD161J-102	RESISTOR 1KΩ 1/6W	R210			QRD161J-471	RESISTOR 470Ω 1/6W
R12			QRD161J-102	RESISTOR 1KΩ 1/6W	R211			QRD161J-471	RESISTOR 470Ω 1/6W

REF No.	PART No.	PART NAME, DESCRIPTION
R212	QVZ3518-681AZ	V RESISTOR,EE LEVEL
R213	QRD161J-331	RESISTOR 330Ω 1/6W
R214	QRD161J-392	RESISTOR 3.9KΩ 1/6W
R215	QRD161J-331	RESISTOR 330Ω 1/6W
R223	QRD161J-222	RESISTOR 2.2KΩ 1/6W
R225	QRD161J-222	RESISTOR 2.2KΩ 1/6W
R226	QRD161J-182	RESISTOR 1.8KΩ 1/6W
R227	QRD161J-102	RESISTOR 1KΩ 1/6W
R228	QRD161J-102	RESISTOR 1KΩ 1/6W
R229	QVZ3518-331AZ	V RESISTOR,OH-1H COL COMB
R230	QRD161J-681	RESISTOR 680Ω 1/6W
R231	QRD161J-221	RESISTOR 220Ω 1/6W
R232	QRD161J-561	RESISTOR 560Ω 1/6W
R233	QRD161J-333	RESISTOR 33KΩ 1/6W
R234	QRD161J-561	RESISTOR 560Ω 1/6W
R235	QRD161J-183	RESISTOR 18KΩ 1/6W
R236	QRD161J-271	RESISTOR 270Ω 1/6W
R237	QRD161J-821	RESISTOR 820Ω 1/6W
R238	QRD161J-102	RESISTOR 1KΩ 1/6W
R239	QRD161J-271	RESISTOR 270Ω 1/6W
R240	QRD161J-151	RESISTOR 150Ω 1/6W
R241	QRD161J-562	RESISTOR 5.6KΩ 1/6W
R242	QRD161J-221	RESISTOR 220Ω 1/6W
R243	QVZ3518-103AZ	V RESISTOR,1H-2H COL COMB
R244	QRD161J-102	RESISTOR 1KΩ 1/6W
R245	QRD161J-102	RESISTOR 1KΩ 1/6W
R246	QRD161J-102	RESISTOR 1KΩ 1/6W
R247	QRD161J-471	RESISTOR 470Ω 1/6W
R248	QRD161J-102	RESISTOR 1KΩ 1/6W
R249	QRD161J-102	RESISTOR 1KΩ 1/6W
R250	QRD161J-272	RESISTOR 2.7KΩ 1/6W
R251	QRD161J-331	RESISTOR 330Ω 1/6W
R252	QRD161J-103	RESISTOR 10KΩ 1/6W
R253	QRD161J-471	RESISTOR 470Ω 1/6W
R254	QRD161J-152	RESISTOR 1.5KΩ 1/6W
R255	QRD161J-301	RESISTOR 300Ω 1/6W
R256	QRD161J-681	RESISTOR 680Ω 1/6W
R257	QRD161J-621	RESISTOR 620Ω 1/6W
R258	QRD161J-152	RESISTOR 1.5KΩ 1/6W
R259	QRD161J-152	RESISTOR 1.5KΩ 1/6W
R260	QRD161J-182	RESISTOR 1.8KΩ 1/6W
R261	QVZ3518-332AZ	V RESISTOR,Y COMB
R262	QRD161J-331	RESISTOR 330Ω 1/6W
R263	QRD161J-103	RESISTOR 10KΩ 1/6W
R264	QVZ3518-102AZ	V RESISTOR,OH-1H COL COMB
R265	QVZ3518-222AZ	V RESISTOR,1H-2H COL COMB
R266	QRD161J-102	RESISTOR 1KΩ 1/6W
R267	QRFV144F-1001A	CMF RESISTOR 1KΩ 1/4W
R268	QRFV144F-1001A	CMF RESISTOR 1KΩ 1/4W
R269	QRD161J-391	RESISTOR 390Ω 1/6W
R270	QVZ3518-332AZ	V RESISTOR,Y COMB
R271	QRD161J-122	RESISTOR 1.2KΩ 1/6W
R272	QRD161J-122	RESISTOR 1.2KΩ 1/6W
R273	QRD161J-392	RESISTOR 3.9KΩ 1/6W
R401	QRD161J-102	RESISTOR 1KΩ 1/6W
R402	QVZ3518-152AZ	V RESISTOR,CNR NC BAL

# Δ REF No.	PART No.	PART NAME, DESCRIPTION
R403	QRD161J-102	RESISTOR 1KΩ 1/6W
R404	QRD161J-102	RESISTOR 1KΩ 1/6W
R405	QRD161J-472	RESISTOR 4.7KΩ 1/6W
R406	QRD161J-472	RESISTOR 4.7KΩ 1/6W
R407	QRD161J-102	RESISTOR 1KΩ 1/6W
R408	QRD161J-222	RESISTOR 2.2KΩ 1/6W
R409	ERT-D2FGL142S	THERMISTOR
R410	QRD161J-331	RESISTOR 330Ω 1/6W
R411	QRD161J-392	RESISTOR 3.9KΩ 1/6W
R412	QRD161J-272	RESISTOR 2.7KΩ 1/6W
R413	QRD161J-821	RESISTOR 820Ω 1/6W
R414	QRD161J-471	RESISTOR 470Ω 1/6W
R415	QRD161J-102	RESISTOR 1KΩ 1/6W
R416	QVZ3518-681AZ	V RESISTOR,NOISE CANCEL BAL
R417	QRD161J-331	RESISTOR 330Ω 1/6W
R418	QRD161J-471	RESISTOR 470Ω 1/6W
R419	QRD161J-471	RESISTOR 470Ω 1/6W
R420	QRD161J-272	RESISTOR 2.7KΩ 1/6W
R421	QRD161J-102	RESISTOR 1KΩ 1/6W
R422	QRD161J-392	RESISTOR 3.9KΩ 1/6W
R423	QRD161J-272	RESISTOR 2.7KΩ 1/6W
R424	QRD161J-272	RESISTOR 2.7KΩ 1/6W
R425	QRD161J-222	RESISTOR 2.2KΩ 1/6W
R426	QRD161J-272	RESISTOR 2.7KΩ 1/6W
R427	QRD161J-332	RESISTOR 3.3KΩ 1/6W
R428	QVZ3518-151A	V RESISTOR,PROCESSOR IN LEVEL
R429	QRD161J-241	RESISTOR 240Ω 1/6W
R430	QRD161J-242	RESISTOR 2.4KΩ 1/6W
R431	QRD161J-391	RESISTOR 390Ω 1/6W
R432	QRD161J-820	RESISTOR 82Ω 1/6W
R433	QRD161J-102	RESISTOR 1KΩ 1/6W
R434	QRD161J-152	RESISTOR 1.5KΩ 1/6W
R435	QRD161J-224	RESISTOR 220KΩ 1/6W
R436	QRD161J-822	RESISTOR 8.2KΩ 1/6W
R438	QRD161J-563	RESISTOR 56KΩ 1/6W
R439	QRD161J-563	RESISTOR 56KΩ 1/6W
R440	QRD161J-122	RESISTOR 1.2KΩ 1/6W
R441	QRD161J-561	RESISTOR 560Ω 1/6W
R442	QRD161J-223	RESISTOR 22KΩ 1/6W
R443	QRD161J-473	RESISTOR 47KΩ 1/6W
R444	QRD161J-152	RESISTOR 1.5KΩ 1/6W
R445	QRD161J-333	RESISTOR 33KΩ 1/6W
R446	QRD161J-123	RESISTOR 12KΩ 1/6W
R447	QRD161J-102	RESISTOR 1KΩ 1/6W
R448	QRD161J-473	RESISTOR 47KΩ 1/6W
R449	QRD161J-102	RESISTOR 1KΩ 1/6W
R451	QRD161J-223	RESISTOR 22KΩ 1/6W
R452	QRD161J-223	RESISTOR 22KΩ 1/6W
R453	QRD161J-223	RESISTOR 22KΩ 1/6W
R454	QVZ3518-223A	V RESISTOR,S PB LEVEL
R455	QRD161J-333	RESISTOR 33KΩ 1/6W
R456	QVZ3518-332AZ	V RESISTOR,Y LEVEL(S-VHS)
R457	QRD161J-682	RESISTOR 6.8KΩ 1/6W
R458	QRD161J-223	RESISTOR 22KΩ 1/6W
R460	QRD161J-100	RESISTOR 10Ω 1/6W
R601	QRD161J-122	RESISTOR 1.2KΩ 1/6W
R602	QRD161J-393	RESISTOR 39KΩ 1/6W

# Δ REF No.	PART No.	PART NAME, DESCRIPTION		# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
R603	QRD161J-102	RESISTOR	1KΩ 1/6W	R908	QRD161J-223	RESISTOR	22KΩ 1/6W
R604	QRD161J-681	RESISTOR	680Ω 1/6W	R909	QRD161J-104	RESISTOR	100KΩ 1/6W
R605	QRD161J-333	RESISTOR	33KΩ 1/6W	R910	QRD161J-471	RESISTOR	470Ω 1/6W
R606	QRD161J-223	RESISTOR	22KΩ 1/6W				
R613	QRD161J-102	RESISTOR	1KΩ 1/6W	R911	QRD161J-221	RESISTOR	220Ω 1/6W
R614	QRD161J-102	RESISTOR	1KΩ 1/6W	R912	QRD161J-102	RESISTOR	1KΩ 1/6W
R615	QRD161J-102	RESISTOR	1KΩ 1/6W	R913	QRD161J-103	RESISTOR	10KΩ 1/6W
R616	QRD161J-102	RESISTOR	1KΩ 1/6W	R914	QRD161J-103	RESISTOR	10KΩ 1/6W
R617	QRD161J-473	RESISTOR	47KΩ 1/6W	R915	QRD161J-103	RESISTOR	10KΩ 1/6W
R618	QRD161J-682	RESISTOR	6.8KΩ 1/6W	R916	QRD161J-681	RESISTOR	680Ω 1/6W
R619	QRD161J-104	RESISTOR	100KΩ 1/6W	R917	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R620	QRD161J-392	RESISTOR	3.9KΩ 1/6W	R918	QRD161J-472	RESISTOR	4.7KΩ 1/6W
				R919	QRD161J-681	RESISTOR	680Ω 1/6W
				R920	QRD161J-102	RESISTOR	1KΩ 1/6W
R621	QVZ3518-102AZ	V RESISTOR, COL COMB GAIN		R921	QRD161J-103	RESISTOR	10KΩ 1/6W
R622	QRD161J-221	RESISTOR	220Ω 1/6W	R922	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R623	QRD161J-103	RESISTOR	10KΩ 1/6W	R923	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R624	QRD161J-103	RESISTOR	10KΩ 1/6W	R924	QRD161J-561	RESISTOR	560Ω 1/6W
R626	QRD161J-223	RESISTOR	22KΩ 1/6W	R925	QRD161J-621	RESISTOR	620Ω 1/6W
R627	QRD161J-273	RESISTOR	27KΩ 1/6W	R926	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R628	QRD161J-102	RESISTOR	1KΩ 1/6W	R927	QRD161J-202	RESISTOR	2KΩ 1/6W
R629	QRD161J-472	RESISTOR	4.7KΩ 1/6W	R928	QRD161J-333	RESISTOR	33KΩ 1/6W
R630	QRD161J-102	RESISTOR	1KΩ 1/6W	R929	QRD161J-362	RESISTOR	3.6KΩ 1/6W
				R930	QRD161J-332	RESISTOR	3.3KΩ 1/6W
R631	QRD161J-182	RESISTOR	1.8KΩ 1/6W				
R632	QRD161J-561	RESISTOR	560Ω 1/6W	R931	QRD161J-182	RESISTOR	1.8KΩ 1/6W
R633	QRD161J-561	RESISTOR	560Ω 1/6W	R932	QRD161J-103	RESISTOR	10KΩ 1/6W
R634	QRD161J-392	RESISTOR	3.9KΩ 1/6W	R933	QRD161J-103	RESISTOR	10KΩ 1/6W
R635	QRD161J-561	RESISTOR	560Ω 1/6W	R934	QRD161J-103	RESISTOR	10KΩ 1/6W
R636	QRD161J-103	RESISTOR	10KΩ 1/6W	R935	QRD161J-103	RESISTOR	10KΩ 1/6W
R637	QRD161J-102	RESISTOR	1KΩ 1/6W	R936	QRD161J-103	RESISTOR	10KΩ 1/6W
R638	QRD161J-102	RESISTOR	1KΩ 1/6W	R937	QRD161J-102	RESISTOR	1KΩ 1/6W
R639	QRD161J-332	RESISTOR	3.3KΩ 1/6W	R938	QRD161J-331	RESISTOR	330Ω 1/6W
R640	QRD161J-102	RESISTOR	1KΩ 1/6W	R939	QRD161J-272	RESISTOR	2.7KΩ 1/6W
				R940	QRD161J-471	RESISTOR	470Ω 1/6W
R641	QRD161J-103	RESISTOR	10KΩ 1/6W				
R642	QRD161J-102	RESISTOR	1KΩ 1/6W	R941	QRD161J-333	RESISTOR	33KΩ 1/6W
R643	QRD161J-222	RESISTOR	2.2KΩ 1/6W	R942	QRD161J-132	RESISTOR	1.3KΩ 1/6W
R644	QRD161J-103	RESISTOR	10KΩ 1/6W	R943	QRD161J-103	RESISTOR	10KΩ 1/6W
R645	QRD161J-103	RESISTOR	10KΩ 1/6W	R944	QRD161J-225	RESISTOR	2.2MΩ 1/6W
R646	QVZ3518-152AZ	V RESISTOR, CNR NC BAL		R945	QRD161J-223	RESISTOR	22KΩ 1/6W
R647	QRD161J-393	RESISTOR	39KΩ 1/6W	R946	QRD161J-392	RESISTOR	3.9KΩ 1/6W
R648	QRD161J-103	RESISTOR	10KΩ 1/6W	R947	QRD161J-560	RESISTOR	56Ω 1/6W
R649	QRD161J-393	RESISTOR	39KΩ 1/6W	R948	QRD161J-182	RESISTOR	1.8KΩ 1/6W
R650	QRD161J-392	RESISTOR	3.9KΩ 1/6W	R949	QRD161J-471	RESISTOR	470Ω 1/6W
				R950	QRD161J-681	RESISTOR	680Ω 1/6W
R651	QRD161J-331	RESISTOR	330Ω 1/6W				
R652	QRD161J-152	RESISTOR	1.5KΩ 1/6W	R951	QRD161J-271	RESISTOR	270Ω 1/6W
R653	QRD161J-102	RESISTOR	1KΩ 1/6W	R952	QRD161J-102	RESISTOR	1KΩ 1/6W
R654	QRD161J-472	RESISTOR	4.7KΩ 1/6W	R953	QRD161J-561	RESISTOR	560Ω 1/6W
R655	QRD161J-392	RESISTOR	3.9KΩ 1/6W	R954	QRD161J-103	RESISTOR	10KΩ 1/6W
R656	QRD161J-122	RESISTOR	1.2KΩ 1/6W	R955	QRD161J-273	RESISTOR	27KΩ 1/6W
R657	QRD161J-272	RESISTOR	2.7KΩ 1/6W	R956	QVZ3518-682A	V RESISTOR, AGC LEVEL 1	
R658	QRD161J-475	RESISTOR	4.7MΩ 1/6W	R957	QRD161J-302	RESISTOR	3KΩ 1/6W
R659	QRD161J-475	RESISTOR	4.7MΩ 1/6W	R958	QRD161J-242	RESISTOR	2.4KΩ 1/6W
				R959	QRD161J-562	RESISTOR	5.6KΩ 1/6W
R901	QRD161J-563	RESISTOR	56KΩ 1/6W	R960	QRD161J-562	RESISTOR	5.6KΩ 1/6W
R902	QRD161J-472	RESISTOR	4.7KΩ 1/6W				
R903	QRD161J-563	RESISTOR	56KΩ 1/6W	R961	QRD161J-331	RESISTOR	330Ω 1/6W
R904	QRD161J-123	RESISTOR	12KΩ 1/6W	R962	QRD161J-331	RESISTOR	330Ω 1/6W
R905	QRD161J-152	RESISTOR	1.5KΩ 1/6W	R963	QRD161J-561	RESISTOR	560Ω 1/6W
R906	QRD161J-271	RESISTOR	270Ω 1/6W				
R907	QRD161J-103	RESISTOR	10KΩ 1/6W				

Δ REF No.	PART No.	PART NAME, DESCRIPTION		# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
C1	QEN61CM-106	NP E CAPACITOR	10μF 16V	C210	QCVB1CN-103	CAPACITOR	0.01μF 16V
C2	QCVB1CN-103	CAPACITOR	0.01μF 16V	C211	QCC11CJ-104	CAPACITOR	0.1μF 16V
C4	QETC1CM-106	E CAPACITOR	10μF 16V	C212	QETC0JM-107	E CAPACITOR	100μF 6.3V
C5	QCVB1CN-103	CAPACITOR	0.01μF 16V	C213	QCVB1CN-103	CAPACITOR	0.01μF 16V
C6	QETC0JM-107	E CAPACITOR	100μF 6.3V	C214	QCVB1CN-103	CAPACITOR	0.01μF 16V
C7	QETC0JM-336	E CAPACITOR	33μF 6.3V	C227	QCVB1CN-103	CAPACITOR	0.01μF 16V
C8	QETC1CM-226	E CAPACITOR	22μF 16V	C228	QETC1CM-106	E CAPACITOR	10μF 16V
C9	QETC1CM-106	E CAPACITOR	10μF 16V	C229	QETC1CM-106	E CAPACITOR	10μF 16V
C10	QETC1CM-106	E CAPACITOR	10μF 16V	C230	QCBBIHJ-820	CAPACITOR	82PF 50V
C11	QETC0JM-108	E CAPACITOR	1000 μF 6.3V	C231	QCVB1CN-103	CAPACITOR	0.01μF 16V
C12	QETC0JM-108	E CAPACITOR	1000 μF 6.3V	C232	QCVB1CN-103	CAPACITOR	0.01μF 16V
C13	QCVB1CN-103	CAPACITOR	0.01μF 16V	C233	QCVB1CN-103	CAPACITOR	0.01μF 16V
C14	QCSB1HJ-150	CAPACITOR	15PF 50V	C234	QETC0JM-107	ECAPACITOR	100μF 6.3V
C15	QCVB1CN-103	CAPACITOR	0.01μF 16V	C235	QCT25CH-820	CAPACITOR	82PF 50V
C16	QETC1CM-107	E CAPACITOR	100μF 16V	C236	QCT25CH-820	CAPACITOR	82PF 50V
C17	QCVB1CN-103	CAPACITOR	0.01μF 16V	C237	QCT25CH-180	CAPACITOR	18PF 50V
C18	QETC0JM-107	E CAPACITOR	100μF 6.3V	C238	QCT25CH-470	CAPACITOR	47PF 50V
C19	QCBBIHJ-820	CAPACITOR	82PF 50V	C239	QCVB1CN-103	CAPACITOR	0.01μF 16V
C20	QCBBIHJ-391	CAPACITOR	390PF 50V	C240	QCT25CH-180	CAPACITOR	18PF 50V
C21	QCBBIHJ-681	CAPACITOR	680PF 50V	C241	QCT25CH-820	CAPACITOR	82PF 50V
C22	QCT25CH-330	CAPACITOR	33PF 50V	C242	QCBBIHJ-221	CAPACITOR	220PF 50V
C23	QCSB1HJ-220	CAPACITOR	22PF 50V	C243	QCVB1CN-103	CAPACITOR	0.01μF 16V
C24	QCS31HJ-9R0	CAPACITOR	9RPF 50V	C244	QETC0JM-227	E CAPACITOR	220μF 6.3V
C25	QCVB1CN-103	CAPACITOR	0.01μF 16V	C245	QETC0JM-227	E CAPACITOR	220μF 6.3V
C26	QCSB1HJ-200	CAPACITOR	20PF 50V	C246	QCVB1CN-103	CAPACITOR	0.01μF 16V
C27	QCSB1HJ-510	CAPACITOR	51PF 50V	C247	QCBBIHJ-331	CAPACITOR	330PF 50V
C28	QETC0JM-336	E CAPACITOR	33μF 6.3V	C248	QETC1EM-475	E CAPACITOR	4.7μF 25V
C29	QETC1HM-474	E CAPACITOR	0.47μF 50V	C249	QCT25CH-470	CAPACITOR	47PF 50V
C30	QCVB1CN-103	E CAPACITOR	0.01μF 16V	C250	QCVB1CN-103	CAPACITOR	0.01μF 16V
C31	QCXB1CN-682	CAPACITOR	0.0068μF 16V	C251	QCVB1CN-103	CAPACITOR	0.01μF 16V
C32	QETC0JM-337	E CAPACITOR	330μF 6.3V	C252	QCFB1EZ-223	CAPACITOR	0.022μF 25V
C33	QCVB1CN-103	CAPACITOR	0.01μF 16V	C253	QCVB1CN-103	CAPACITOR	0.01μF 16V
C34	QETC1CM-226	CAPACITOR	22μF 16V	C254	QCFB1EZ-223	CAPACITOR	0.022μF 25V
C35	QCVB1CN-103	CAPACITOR	0.01μF 16V	C255	QCFB1EZ-223	CAPACITOR	0.022μF 25V
C36	QETC1HM-225	E CAPACITOR	2.2μF 50V	C256	QCVB1CN-103	CAPACITOR	0.01μF 16V
C37	QETC1HM-225	E CAPACITOR	2.2μF 50V	C257	QCVB1CN-103	CAPACITOR	0.01μF 16V
C38	QETC1HM-474	E CAPACITOR	0.47μF 50V	C258	QCVB1CN-103	CAPACITOR	0.01μF 16V
C39	QETC1HM-474	E CAPACITOR	0.47μF 50V	C259	QETC0JM-107	E CAPACITOR	100μ F 6.3V
C40	QCVB1CN-103	CAPACITOR	0.01μF 16V	C260	QCVB1CN-103	CAPACITOR	0.01μF 16V
C41	QCXB1CN-682	CAPACITOR	0.0068μF 16V	C261	QCVB1CN-103	CAPACITOR	0.01μF 16V
C42	QETC1HM-225	E CAPACITOR	2.2μF 50V	C262	QCVB1CN-103	CAPACITOR	0.01μF 16V
C43	QCVB1CN-103	CAPACITOR	0.01μF 16V	C263	QCBBIHJ-820	CAPACITOR	82PF 50V
C44	QCSB1HJ-560	CAPACITOR	56PF 50V	C264	QETC1HM-476	E CAPACITOR	47μF 50V
C45	QCVB1CN-103	CAPACITOR	0.01μF 16V	C265	QCSB1HJ-150	CAPACITOR	15PF 50V
C46	QCBBIHJ-221	CAPACITOR	220PF 50V	C266	QCVB1CN-103	CAPACITOR	0.01μF 16V
C47	QCVB1CN-103	CAPACITOR	0.01μF 16V	C268	QCSB1HJ-270	CAPACITOR	27PF 50V
C48	QCVB1CN-103	CAPACITOR	0.01μF 16V	C401	QCVB1CN-103	CAPACITOR	0.01μF 16V
C49	QETC0JM-336	E CAPACITOR	33μF 6.3V	C402	QCSB1HJ-220	CAPACITOR	22PF 50V
C201	QCSB1HK-4R7	CAPACITOR	4.7PF 50V	C403	QCVB1CN-103	CAPACITOR	0.01μF 16V
C202	QCSB1HK-4R7	CAPACITOR	4.7PF 50V	C404	QCSB1HJ-120	CAPACITOR	12PF 50V
C203	QETC1CM-106	E CAPACITOR	10μF 16V	C405	QETC1HM-104	E CAPACITOR	0.1μF 50V
C204	QCBBIHJ-102	CAPACITOR	0.001μF 50V	C406	QCVB1CN-103	CAPACITOR	0.01μF 16V
C205	QCVB1CN-103	CAPACITOR	0.01μF 16V	C407	QETC0JM-476	E CAPACITOR	47μF 6.3V
C206	QETC1HM-105	E CAPACITOR	1μF 50V	C408	QCVB1CN-103	CAPACITOR	0.01μF 16V
C207	QETC1CM-336	E CAPACITOR	33μF 16V	C409	QETC1CM-106	E CAPACITOR	10μF 16V
C208	QCBBIHJ-102	CAPACITOR	0.001μF 50V	C410	QCVB1CN-103	CAPACITOR	0.01μF 16V
C209	QETC1HM-335	E CAPACITOR	3.3μF 50V				

# Δ REF No.	PART No.	PART NAME, DESCRIPTION		# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
C411	QETC1EM-475	E CAPACITOR	4.7μF 25V	C620	QCBB1HJ-101	CAPACITOR	100PF 50V
C412	QETC1CM-106	E CAPACITOR	10μF 16V	C621	QCBB1HJ-101	CAPACITOR	100PF 50V
C413	QCVB1CN-103	CAPACITOR	0.01μF 16V	C622	QCVB1CN-103	CAPACITOR	0.01μF 16V
C414	QCVB1CN-103	CAPACITOR	0.01μF 16V	C623	QCFB1EZ-223	CAPACITOR	0.022μF 25V
C415	QCXB1CN-472	CAPACITOR	0.0047μF 16V	C624	QETC0JM-107	E CAPACITOR	100μF 6.3V
C416	QETC1HM-474	E CAPACITOR	0.47μF 50V	C625	QCC31EJ-104	CAPACITOR	0.1μF 25V
C417	QETC1EM-475	E CAPACITOR	4.7μF 25V	C626	QCVB1CN-103	CAPACITOR	0.01μF 16V
C418	QETC1HM-105	E CAPACITOR	1μF 50V	C627	QCC31EJ-104	CAPACITOR	0.1μF 25V
C419	QCVB1CN-103	CAPACITOR	0.01μF 16V	C628	QETC1CM-106	E CAPACITOR	10μF 16V
C420	QCVB1CN-103	CAPACITOR	0.01μF 16V	C629	QCVB1CN-103	CAPACITOR	0.01μF 16V
C421	QETC0JM-476	E CAPACITOR	47μF 6.3V	C630	QCVB1CN-103	CAPACITOR	0.01μF 16V
C422	QCVB1CN-103	CAPACITOR	0.01μF 16V	C631	QCBB1HJ-102	CAPACITOR	0.001μF 50V
C423	QETC0JM-476	E CAPACITOR	47μF 6.3V	C632	QCVB1CN-103	CAPACITOR	0.01μF 16V
C425	QETC0JM-107	E CAPACITOR	100μF 6.3V	C633	QCC11CJ-104	CAPACITOR	0.1μF 16V
C426	QETC0JM-107	E CAPACITOR	100μF 6.3V	C635	QCSB1HJ-330	CAPACITOR	33PF 50V
C427	QETC0JM-227	E CAPACITOR	220μF 6.3V	C636	QCC31CJ-473	CAPACITOR	0.047μF 16V
C428	QETC1CM-226	E CAPACITOR	22μF 16V	C637	QCVB1CN-103	CAPACITOR	0.01μF 16V
C429	QCVB1CN-103	CAPACITOR	0.01μF 16V	C638	QCBB1HJ-181	CAPACITOR	180PF 50V
C430	QETC1EM-475	E CAPACITOR	4.7μF 25V	C639	QCT30CH-200	CAPACITOR	20PF 50V
C431	QETC1HM-225	E CAPACITOR	2.2μF 50V	C640	QCBB1HJ-101	CAPACITOR	100PF 50V
C432	QETC1HM-225	E CAPACITOR	2.2μF 50V	C641	QETC1CM-106	E CAPACITOR	10μF 16V
C433	QETC1EM-475	E CAPACITOR	4.7μF 25V	C642	QCVB1CN-103	E CAPACITOR	0.01μF 16V
C434	QETC0JM-476	E CAPACITOR	47μF 6.3V	C643	QETC1HM-105	E CAPACITOR	1μF 50V
C436	QETC0JM-107	E CAPACITOR	100μF 6.3V	C644	QCVB1CN-103	CAPACITOR	0.01μF 16V
C437	QCSB1HJ-270	CAPACITOR	27PF 50V	C645	QCBB1HJ-221	CAPACITOR	220PF 50V
C438	QCSB1HK-4R7	CAPACITOR	4.7PF 50V	C646	QETC1HM-104	E CAPACITOR	0.1μF 50V
C439	QCSB1HJ-220	CAPACITOR	22PF 50V	C647	QETC1HM-225	E CAPACITOR	2.2μF 50V
C440	QCSB1HJ-160	CAPACITOR	16PF 50V	C649	QCXB1CM-392	CAPACITOR	0.0039μF 16V
C441	QCSB1HJ-270	CAPACITOR	27PF 50V	C650	QFN31HJ-103	M CAPACITOR	0.01μF 50V
C442	QCSB1HJ-330	CAPACITOR	33PF 50V	C651	QCT30CH-120	CAPACITOR	12PF 50V
C443	QCC31CJ-473	CAPACITOR	0.047μF 16V	C901	QETC1HM-334	E CAPACITOR	0.33μF 50V
C444	QCVB1CN-103	CAPACITOR	0.01μF 16V	C902	QCVB1CN-103	CAPACITOR	0.01μF 16V
C445	QETC0JM-336	E CAPACITOR	33μF 6.3V	C903	QCSB1HJ-220	CAPACITOR	22PF 50V
C446	QETC1AM-226	E CAPACITOR	22μF 10V	C904	QCXB1CN-152	CAPACITOR	0.0015μF 16V
C447	QETC1CM-106	E CAPACITOR	10μF 16V	C905	QETC1CM-106	E CAPACITOR	10μF 16V
C448	QCVB1CN-103	CAPACITOR	0.01μF 16V	C906	QETC1HM-105	E CAPACITOR	1μF 50V
C449	QETC1EM-475	E CAPACITOR	4.7μF 25V	C907	QCVB1CN-103	CAPACITOR	0.01μF 16V
C450	QETC1CM-476	E CAPACITOR	47μF 16V	C908	QFN31HJ-562	M CAPACITOR	0.0056μF 50V
C451	QETC0JM-107	E CAPACITOR	100μF 6.3V	C909	QETC1HM-335	E CAPACITOR	3.3μF 50V
C452	QCVB1CN-103	CAPACITOR	0.01μF 16V	C910	QETC1CM-106	E CAPACITOR	10μF 16V
C453	QCVB1CN-103	CAPACITOR	0.01μF 16V	C911	QCVB1CN-103	CAPACITOR	0.01μF 16V
C601	QCVB1CN-103	CAPACITOR	0.01μF 16V	C912	QCBB1HJ-181	CAPACITOR	180PF 50V
C605	QCVB1CN-103	CAPACITOR	0.01μF 16V	C913	QAT3123-300	TRIM CAP	30PF 100
C606	QCVB1CN-103	CAPACITOR	0.01μF 16V	C914	QCSB1HJ-220	CAPACITOR	22PF 50V
C607	QETC1HM-104	E CAPACITOR	0.1μF 50V	C915	QEP41HM-105	NP E CAPACITOR	1μF 50V
C608	QCVB1CN-103	CAPACITOR	0.01μF 16V	C916	QCSB1HJ-270	CAPACITOR	27PF 50V
C609	QETC1HM-224	E CAPACITOR	0.22μF 50V	C917	QCSB1HJ-270	CAPACITOR	27PF 50V
C610	QCVB1CN-103	CAPACITOR	0.01μF 16V	C918	QCSB1HJ-220	CAPACITOR	22PF 50V
C611	QCC11CJ-104	CAPACITOR	0.1μF 16V	C919	QCVB1CN-103	CAPACITOR	0.01μF 16V
C612	QCBB1HJ-471	CAPACITOR	470PF 50V	C920	QCSB1HJ-680	CAPACITOR	68PF 50V
C613	QCBB1HJ-561	CAPACITOR	560PF 50V	C921	QAT3123-450	TRIM CAP	45PF 100
C614	QETC1HM-474	ECAPACITOR	0.47μF 50V	C922	QCT30CH-150	CAPACITOR	15PF 50V
C615	QETC1HM-225	E CAPACITOR	2.2μF 50V	C923	QCSB1HK-3R3	CAPACITOR	3.3PF 50V
C616	QCXB1CM-682	CAPACITOR	0.0068μF 16V	C924	QETC0JM-476	E CAPACITOR	47μF 6.3V
C617	QCC11CJ-104	CAPACITOR	0.1μF 16V	C925	QCVB1CN-103	CAPACITOR	0.01μF 16V
C618	QETC0JM-107	E CAPACITOR	100μF 6.3V	C926	QCSB1HJ-680	CAPACITOR	68PF 50V
C619	QCBB1HJ-102	CAPACITOR	0.001μF 50V	C927	QCVB1CN-103	CAPACITOR	0.01μF 16V

Δ REF No.	PART No.	PART NAME, DESCRIPTION		# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
C928	QETC1CM-476	E CAPACITOR	47μF 16V	L903	PU59988-220JY	COIL	22μH
C929	QETC1HM-226	E CAPACITOR	22μF 50V	L904	PU59988-220JY	COIL	22μH
C930	QETC1HM-475	E CAPACITOR	4.7μF 50V	L905	PU59988-8R2JY	COIL	8.2μH
C931	QETC0JM-476	E CAPACITOR	47μF 6.3V	L906	PU48530-101K	COIL	100μH
C932	QCSB1HJ-150	CAPACITOR	15PF 50V	L907	PU48530-101K	COIL	100μH
C933	QCVB1CN-103	CAPACITOR	0.01μF 16V				
C934	QCSB1HK-4R7	CAPACITOR	4.7PF 50V	EQ201	PELN0576	EQUALIZER	
C935	QCSB1HJ-560	CAPACITOR	56PF 50V				
L1	PU48530-101K	COIL	100μH	LPF201	PU61052	LOW PASS FILTER	
L2	PU48530-101K	COIL	100μH	LPF202	PU61053	LOW PASS FILTER	
L3	PU59988-820J	COIL	82μH	LPF401	PU60055	LOW PASS FILTER	
L4	PU59988-101J	COIL	100μH	LPF402	PELN0336-01-01	LOW PASS FILTER	
L5	PU59988-390J	COIL	39μH	LPF403	PELN0409	LOW PASS FILTER	
L6	PU48530-101K	COIL	100μH	LPF601	PELN0574	LOW PASS FILTER	
L7	PU59988-560J	COIL	56μH	LPF602	PU61057	LOW PASS FILTER	
L8	PU59988-121JY	COIL	120μH				
L9	PU48530-101K	COIL	100μH	BPF401	PELN0343	BAND PASS FILTER	
L10	PU59988-560J	COIL	56μH	BPF601	PU61058	BAND PASS FILTER	
L11	PU59988-101J	COIL	100μH				
L12	PU59988-680J	COIL	68μH	Δ CF901	PU60086	RESONATOR	
L201	PU59152-101J	COIL	100μH				
L202	PU59988-330J	COIL	33μH	DL601	PU60227	1H DELAY LINE	
L205	PU48530-101K	COIL	100μH				
L206	PU59988-180J	COIL	18μH	Δ X601	PEVB0347	CRYSTAL RESONATOR	
L207	PU59988-101J	COIL	100μH	Δ X901	PU60747	CRYSTAL RESONATOR	
L208	PU59988-101J	COIL	100μH				
L209	PU59988-180J	COIL	18μH	T601	PELN0575	TANK FILTER	
L210	PU59988-100J	COIL	10μH				
L211	PU48530-101K	COIL	100μH	SCW1	SDSF3008Z	SCREW	
L212	PU48530-101K	COIL	100μH				
L213	PU48530-101K	COIL	100μH	SLD2	PU61070	SHIELD COVER, X2	
L401	PU59988-330J	COIL	33μH	SLD3	PU61071	SHIELD PLATE, X2	
L402	PU48530-101K	COIL	100μH				
L403	PU48530-101K	COIL	100μH	SPC1	PU60010-2	SPACER, X2	
L404	PU59988-680J	COIL	68μH				
L405	PU48530-101K	COIL	100μH	TP	PU57545	TEST PIN	
L406	PU59153-101K	COIL	100μH				
L407	PU48530-101K	COIL	100μH	CN2	PU59555-2	CONNECTOR	
L408	PU48530-101K	COIL	100μH	CN3	PU59555-6	CONNECTOR	
L409	PU59988-100J	COIL	10μH	CN4	PU59555-2	CONNECTOR	
L410	PU59988-181J	COIL	180μH	CN6	PU60417-9	CONNECTOR	
L411	PU59988-820J	COIL	82μH	CN7	PU59555-3	CONNECTOR	
L412	PU59988-680J	COIL	68μH	CN9	PU60417-3	CONNECTOR	
L413	PU48530-471J	COIL	470μH	CN10	PU59555-7	CONNECTOR	
L414	PU59988-121JY	COIL	120μH	CN11	PU60417-4	CONNECTOR	
L601	PELN0580	COIL, COLCOMB PHASE		CN12	PU59555-5	CONNECTOR	
L602	PU48530-101K	COIL	100μH	CN13	PU60417-3	CONNECTOR	
L604	PU59988-100J	COIL	10μH				
L605	PU48530-471J	COIL	470μH				
L606	PU48530-222J	COIL	2200μH				
L607	PU48530-561J	COIL	560μH				
L901	PU48530-101K	COIL	100μH				
L902	PU58333-220J	COIL	22μH				

# Δ	REF No.	PART No.	PART NAME, DESCRIPTION		# Δ	REF No.	PART No.	PART NAME, DESCRIPTION	
		CN14	PU59555-2	CONNECTOR			R40	QRSA08J-151YN	RESISTOR 150Ω 1/10W
		CN15	PU59555-2	CONNECTOR			R41	QRSA08J-391YN	RESISTOR 390Ω 1/10W
		CN602	PU59555-3	CONNECTOR			C1	QCFA1HZ-103	CAPACITOR 0.01μF 50V
		CN901	PU60417-6	CONNECTOR			C2	QCSA1HG-301	CAPACITOR 300PF 50V
		- Y MODULE BOARD ASSEMBLY -					C3	QCSA1HG-301	CAPACITOR 300PF 50V
		PWBA	PB20432C	Y.MODULE(JA072)			C4	QCSA1HG-221	CAPACITOR 220PF 50V
		IC1	VC2076MP	IC			C5	QCSA1HG-820	CAPACITOR 82PF 50V
		IC2	JCP0022	IC			C6	QCSA1HG-271	CAPACITOR 270PF 50V
		Q1	2SA1576(QRS)	TRANSISTOR			C7	QCSA1HJ-181	CAPACITOR 180PF 50V
		Q2	2SA1576(QRS)	TRANSISTOR			C8	QCSA1HJ-101	CAPACITOR 100PF 50V
		D1	MA141WK or DAN202U	DIODE DIODE			C9	QCSA1HJ-301	CAPACITOR 300PF 50V
		R1	PU57567-24	TRIMMING RESISTOR 250Ω 1/8W			C10	QCSA1HJ-301	CAPACITOR 300PF 50V
		R2	QRSA08J-561YN	RESISTOR 560Ω 1/10W			C11	QCFA1HZ-103	CAPACITOR 0.01μF 50V
		R3	NRVA62D-332N	RESISTOR 3.3KΩ 1/16W			C12	QCSA1HJ-101	CAPACITOR 100PF 50V
		R4	NRVA62D-332N	RESISTOR 3.3KΩ 1/16W			C14	QCFA1HZ-103	CAPACITOR 0.01μF 50V
		R5	NRVA62D-152N	RESISTOR 1.5KΩ 1/16W			C15	QCSA1HJ-181	CAPACITOR 180PF 50V
		R6	NRVA62D-102N	RESISTOR 1KΩ 1/16W			C16	QCSA1HJ-471	CAPACITOR 470PF 50V
		R7	NRVA62D-471N	RESISTOR 470Ω 1/16W			C17	QCFA1HZ-223	CAPACITOR 0.022μF 50V
		R8	NRVA62D-102N	RESISTOR 1KΩ 1/16W			C18	QCSA1HJ-240	CAPACITOR 24PF 50V
		R9	QRSA08J-162YN	RESISTOR 1.6KΩ 1/10W			C19	QCFA1HZ-103	CAPACITOR 0.01μF 50V
		R10	QRSA08J-122YN	RESISTOR 1.2KΩ 1/10W			C20	QCFA1HZ-103	CAPACITOR 0.01μF 50V
		R11	QRSA08J-332YN	RESISTOR 3.3KΩ 1/10W			C22	QCFA1HZ-103	CAPACITOR 0.01μF 50V
		R12	QRSA08J-332YN	RESISTOR 3.3KΩ 1/10W			C23	QCSA1HJ-390	CAPACITOR 39PF 50V
		R13	QRSA08J-122YN	RESISTOR 1.2KΩ 1/10W			C24	QCSA1HJ-151	CAPACITOR 150PF 50V
		R14	QRSA08J-152YN	RESISTOR 1.5KΩ 1/10W			C25	QCSA1HJ-390	CAPACITOR 39PF 50V
		R16	QRSA08J-391YN	RESISTOR 390Ω 1/10W			C26	QCSA1HJ-151	CAPACITOR 150PF 50V
		R17	QRSA08J-152YN	RESISTOR 1.5KΩ 1/10W			C27	QCFA1HZ-103	CAPACITOR 0.01μF 50V
		R18	QRSA08J-221YN	RESISTOR 220Ω 1/10W			C28	QCFA1HZ-103	CAPACITOR 0.01μF 50V
		R19	QRSA08J-751YN	RESISTOR 750Ω 1/10W			C30	QCFA1HZ-103	CAPACITOR 0.01μF 50V
		R20	QRSA08J-102YN	RESISTOR 1KΩ 1/10W			C32	QCSA1HG-161	CAPACITOR 160PF 50V
		R21	QRSA08J-331YN	RESISTOR 330Ω 1/10W			C33	QCFA1CZ-474	CAPACITOR 0.47μF 16V
		R22	QRSA08J-121YN	RESISTOR 120Ω 1/10W			C34	QCFA1CZ-474	CAPACITOR 0.47μF 16V
		R23	QRSA08J-221YN	RESISTOR 220Ω 1/10W			C35	QCFA1CZ-474	CAPACITOR 0.47μF 16V
		R25	PU57567-21	TRIMMING RESISTOR 11KΩ 1/8W			C36	QCFA1CZ-104	CAPACITOR 0.1μF 16V
		R26	PU57567-2	TRIMMING RESISTOR 5.2KΩ 1/8W			C37	QCFA1HZ-103	CAPACITOR 0.01μF 50V
		R27	PU57567-31	TRIMMING RESISTOR 2.6KΩ 1/8W			C39	QCFA1HZ-103	CAPACITOR 0.01μF 50V
		R28	PU57567-19	TRIMMING RESISTOR 7.2KΩ 1/8W			C41	QCSA1HJ-180	CAPACITOR 18PF 50V
		R29	NRVA62D-822N	RESISTOR 8.2KΩ 1/16W			C43	QCF81HZ-103	CAPACITOR 0.01μF 50V
		R30	QRSA08J-303YN	RESISTOR 30KΩ 1/10W			C44	QCFA1HZ-823	CAPACITOR 0.082μF 50V
		R31	NRVA62D-152N	RESISTOR 1.5KΩ 1/16W			C45	QCFA1HZ-103	CAPACITOR 0.01μF 50V
		R32	QRSA08J-104YN	RESISTOR 100KΩ 1/10W			C46	QEF80JM-476	TANTAL CAPACITOR 47μF 6.3
		R33	PU57567-1	TRIMMING RESISTOR 3.4KΩ 1/8W			C47	QCSA1HJ-4R0	CAPACITOR 4RPF 50V
		R34	PU57567-26	TRIMMING RESISTOR 1.5KΩ 1/8W			L2	PU58201-220J	COIL 22μH
		R35	PU57567-28	TRIMMING RESISTOR 45KΩ 1/8W			L3	PU58201-330J	COIL 33μH
		R36	PU57567-21	TRIMMING RESISTOR 11KΩ 1/8W			L5	PU58201-470J	COIL 47μH
		R37	QRSA08J-272YN	RESISTOR 2.7KΩ 1/10W			L6	QRS188J-0R0Y	RESISTOR 0.0 1/8W
		R38	QRSA08J-102YN	RESISTOR 1KΩ 1/10W					
		R39	QRSA08J-471YN	RESISTOR 470Ω 1/10W					

△ REF No. PART No. PART NAME, DESCRIPTION

TUNER/IF BOARD ASSEMBLY <08>

PWBA	PB10524A-01	TU UNIT BOARD ASSY	
RF1	PERF0064	RF CONVERTER	
TNR1	PERF0057	TUNER	
IC1	LA7577V	IC	
IC2	CXA1011P	IC	
IC3	TC4S01F	IC	
Q1	2SD1450S,T	TRANSISTOR	
	or 2SD1468S(RS)	TRANSISTOR	
Q2	2SC1317(RS)	TRANSISTOR	
	or 2SC1318(RS)	TRANSISTOR	
Q3	2SC1317(RS)	TRANSISTOR	
	or 2SC1318(RS)	TRANSISTOR	
Q4	2SC4081(RS)	TRANSISTOR	
Q6	2SC4081(S)	TRANSISTOR	
Q7	2SA1576(S)	TRANSISTOR	
Q8	2SA1576(S)	TRANSISTOR	
Q9	2SC4081(S)	TRANSISTOR	
Q10	2SC4081(S)	TRANSISTOR	
Q11	DTA114EU	TRANSISTOR	
Q12	DTC114WU	TRANSISTOR	
D1	E-452-2	DIODE	
D2	HZ30-2L	ZENER DIODE	
D3	MTZ11B	ZENER DIODE	
D4	MTZ10B	ZENER DIODE	
D5	2SA1576(RS)	TRANSISTOR	
D7	1SS133	DIODE	
D8	1SS133	DIODE	
R1	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R2	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R5	QRSA08J-104YN	RESISTOR	100KΩ 1/10W
R6	QRSA08J-750YN	RESISTOR	75Ω 1/10W
R7	QRSA08J-680YN	RESISTOR	68Ω 1/10W
R8	QRSA08J-332YN	RESISTOR	3.3KΩ 1/10W
R11	QRSA08J-271YN	RESISTOR	270Ω 1/10W
R13	QRSA08J-822YN	RESISTOR	8.2KΩ 1/10W
R14	QRSA08J-222YN	RESISTOR	2.2KΩ 1/10W
R15	QRSA08J-822YN	RESISTOR	8.2KΩ 1/10W
R16	QVZ3518-153AZ	V RESISTOR,RF AGC	
R17	QRSA08J-123YN	RESISTOR	12KΩ 1/10W
R18	QRSA08J-272YN	RESISTOR	2.7KΩ 1/10W
R19	QRSA08J-824YN	RESISTOR	820KΩ 1/10W
R20	QRSA08J-104YN	RESISTOR	100KΩ 1/10W
R21	QRSA08J-513YN	RESISTOR	51KΩ 1/10W
R22	QRSA08J-513YN	RESISTOR	51KΩ 1/10W
R23	QRSA08J-151YN	RESISTOR	150Ω 1/10W
R24	QRSA08J-821YN	RESISTOR	820Ω 1/10W
R25	QRSA08J-301YN	RESISTOR	300Ω 1/10W
R26	QRSA08J-182YN	RESISTOR	1.8KΩ 1/10W

# △ REF No.	PART No.	PART NAME, DESCRIPTION	
R31	QRSA08J-332YN	RESISTOR	3.3KΩ 1/10W
R33	QRSA08J-681YN	RESISTOR	680Ω 1/10W
R34	QRSA08J-153YN	RESISTOR	15KΩ 1/10W
R35	QRSA08J-101YN	RESISTOR	100Ω 1/10W
R36	QRSA08J-271YN	RESISTOR	270Ω 1/10W
R41	QRSA08J-471YN	RESISTOR	470Ω 1/10W
R42	QRSA08J-184YN	RESISTOR	180KΩ 1/10W
R43	QRSA08J-822YN	RESISTOR	8.2KΩ 1/10W
R44	QRSA08J-223YN	RESISTOR	22KΩ 1/10W
R45	QRSA08J-822YN	RESISTOR	8.2KΩ 1/10W
R46	QRSA08J-332YN	RESISTOR	3.3KΩ 1/10W
R47	QRSA08J-153YN	RESISTOR	15KΩ 1/10W
R48	QRSA08J-101YN	RESISTOR	100Ω 1/10W
R49	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R50	QRSA08J-154YN	RESISTOR	150KΩ 1/10W
R51	QRSA08J-563YN	RESISTOR	56KΩ 1/10W
R52	QRSA08J-154YN	RESISTOR	150KΩ 1/10W
R53	QRSA08J-123YN	RESISTOR	12KΩ 1/10W
R54	QRSA08J-822YN	RESISTOR	8.2KΩ 1/10W
R55	QRSA08J-123YN	RESISTOR	12KΩ 1/10W
R56	QRSA08J-151YN	RESISTOR	150Ω 1/10W
R57	QRSA08J-182YN	RESISTOR	1.8KΩ 1/10W
R58	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R61	QRSA08J-392YN	RESISTOR	3.9KΩ 1/10W
R62	QRSA08J-122YN	RESISTOR	1.2KΩ 1/10W
R63	QRSA08J-564YN	RESISTOR	560KΩ 1/10W
R64	QRSA08J-223YN	RESISTOR	22KΩ 1/10W
R65	QRSA08J-222YN	RESISTOR	2.2KΩ 1/10W
R66	QRSA08J-153YN	RESISTOR	15KΩ 1/10W
R67	QRSA08J-561YN	RESISTOR	560Ω 1/10W
R68	QRSA08J-361YN	RESISTOR	360Ω 1/10W
R69	QRSA08J-682YN	RESISTOR	6.8KΩ 1/10W
R70	QRSA08J-301YN	RESISTOR	300Ω 1/10W
R71	QRSA08J-752YN	RESISTOR	7.5KΩ 1/10W
R72	QRSA08J-272YN	RESISTOR	2.7KΩ 1/10W
R73	QRSA08J-332YN	RESISTOR	3.3KΩ 1/10W
R74	QRSA08J-132YN	RESISTOR	1.3KΩ 1/10W
R75	QRSA08J-101YN	RESISTOR	100Ω 1/10W
R76	QRSA08J-271YN	RESISTOR	270Ω 1/10W
R77	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R78	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
C1	QCYA1HK-102	CAPACITOR	0.001μF 50V
C2	QETF1CM-476	E CAPACITOR	47μF 16V
C3	QCYA1HK-102	CAPACITOR	0.001μF 50V
C4	QETC1HM-106	E CAPACITOR	10μF 50V
C11	QETF1CM-476	E CAPACITOR	47μF 16V
C13	QEKFIEM-475	E CAPACITOR	4.7μF 25V
C14	QETF1CM-476	E CAPACITOR	47μF 16V
C15	QCYA1HK-103	CAPACITOR	0.01μF 50V
C16	QCYA1HK-102	CAPACITOR	0.001μF 50V
C17	QCYA1HK-102	CAPACITOR	0.001μF 50V
C18	QCYA1HK-102	CAPACITOR	0.001μF 50V
C19	QCYA1HK-103	CAPACITOR	0.01μF 50V
C20	QCTA1CH-331	CAPACITOR	330PF 16V
C21	QCYA1HK-103	CAPACITOR	0.01μF 50V

# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
C22	QCYA1HK-103	CAPACITOR	0.01μF 50V
C23	QETF1CM-476	E CAPACITOR	47μF 16V
C24	QCYA1HK-103	CAPACITOR	0.01μF 50V
C25	QCTA1CH-150	CAPACITOR	15PF 16V
C26	QFV71HJ-683	TF CAPACITOR	0.068μF 50V
C27	QCYA1HK-102	CAPACITOR	0.001μF 50V
C28	QFV71HJ-154	TF CAPACITOR	0.15μF 50V
C30	QEKFIHM-474	E CAPACITOR	0.47μF 50V
C31	QCTA1CH-470	CAPACITOR	47PF 16V
C34	QCYA1HK-103	CAPACITOR	0.01μF 50V
C38	QETF1CM-476	E CAPACITOR	47μF 16V
C40	QEKFIHM-224	E CAPACITOR	0.22μF 50V
C41	QEKFIHM-104	E CAPACITOR	0.1μF 50V
C43	QCYA1HK-102	CAPACITOR	0.001μF 50V
C44	QCTA1CH-101	CAPACITOR	100PF 16V
C45	QEKFIHM-106	E CAPACITOR	10μF 16V
C46	QETF1CM-476	E CAPACITOR	47μF 16V
C48	QCYA1HK-103	CAPACITOR	0.01μF 50V
C49	QCTA1CH-121	CAPACITOR	120PF 16V
C50	QCTA1CH-101	CAPACITOR	100PF 16V
C51	PU59499-11	BUS WIRE	
C53	QEE81CJ-335	TANTAL CAPACITOR	3.3μF 16V
C54	QEKFIHM-105	E CAPACITOR	1μF 50V
C55	QEE81CJ-106	TANTAL CAPACITOR	10μF 16V
C56	QEKFIHM-225	E CAPACITOR	2.2μF 50V
C57	QEKFIHM-106	E CAPACITOR	10μF 16V
C59	QFLC1HJ-472Z	M CAPACITOR	0.0047μF 50V
C60	QEKFIHM-105	E CAPACITOR	1μF 50V
C61	QENC1CM-106	NP E CAPACITOR	10μF 16V
C62	QFV71HJ-223	TF CAPACITOR	0.022μF 50V
C63	QFV71HJ-104	TF CAPACITOR	0.1μF 50V
C64	QEKFIHM-105	E CAPACITOR	1μF 50V
C65	QEKFIHM-106	E CAPACITOR	10μF 16V
C66	QETF1CM-476	E CAPACITOR	47μF 16V
C68	QETF1CM-476	E CAPACITOR	47μF 16V
C91	QETF1CM-476	E CAPACITOR	47μF 16V
L1	PU60025-R82	COIL	0.82μH
L2	PU60025-1R0	COIL	1μH
L3	PU59499-11	BUS WIRE	
L4	PU60025-R91S	COIL	0.91μH
L5	PU59499	BUS WIRE	
L6	PU59152-270J	COIL	27μH
L7	PU59152-150J	COIL	15μH
L10	PU59152-8R2J	COIL	8.2μH
CF1	PU59039	CERAMIC FILTER	
CF2	PU60774-Z	CERAMIC FILTER	
SAW1	PEVB0419	SAW FILTER	
SAW2	PEVB042Q	SAW FILTER	
T1	PELN0403-02	IF. TRANSFORMER	
T2	PELN0401	IF. TRANSFORMER	

# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
T3	PELN0402	IF. TRANSFORMER	
CN1	PU59555-2	CONNECTOR	
CN2	PEMC0846-012	B TO B CONN	
CN3	PEMC0846-005	B TO B CONN	
CN4	PU59555-4	CONNECTOR	
CN5	PU59555-2	CONNECTOR	
CN6	PB10531A-01	DEMOM PWB ASS'Y	
CN7	PU59555-2	CONNECTOR	

DEMOMULATOR ASSEMBLY <14>			
PWBA	PB10531A-01	DEMOM BOARD ASSY	
IC201	UPC1871CU	IC	
Q202	DTC114WU	TRANSISTOR	
Q203	DTC114WU	TRANSISTOR	
R201	QVZ3525-223	V RESISTOR,LPF ADJ	
R202	QVZ3518-472A	V RESISTOR,SEPARATION	
R203	QVZ3518-472A	V RESISTOR,SEPARATION	
R204	QVZ3525-473	V RESISTOR,VCO ADJ	
R207	QRSA08J-104YN	RESISTOR	100KΩ 1/10W
R208	QRSA08J-104YN	RESISTOR	100KΩ 1/10W
R209	QRSA08J-683YN	RESISTOR	68KΩ 1/10W
R210	QRSA08J-273YN	RESISTOR	27KΩ 1/10W
R211	QRSA08J-272YN	RESISTOR	2.7KΩ 1/10W
R213	QRSA08J-471YN	RESISTOR	470Ω 1/10W
R214	QRSA08J-563YN	RESISTOR	56KΩ 1/10W
R215	QRSA08J-563YN	RESISTOR	56KΩ 1/10W
R216	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R217	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R218	QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R220	QRSA08J-122YN	RESISTOR	1.2KΩ 1/10W
R221	QRSA08J-122YN	RESISTOR	1.2KΩ 1/10W
R222	QRSA08J-823YN	RESISTOR	82KΩ 1/10W
R223	QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R236	QRSA08J-392YN	RESISTOR	3.9KΩ 1/10W
R237	QRSA08J-392YN	RESISTOR	3.9KΩ 1/10W
R246	QRSA08J-472YN	RESISTOR	4.7KΩ 1/10W
R247	QVZ3518-472A	V RESISTOR,dBX LEVEL HATCH	
C201	QEKFIEM-475	E CAPACITOR	4.7μF 25V
C202	QEKFIHM-474	E CAPACITOR	0.47μF 50V
C203	QETF1CM-476	E CAPACITOR	47μF 16V
C204	QEKFIHM-105	E CAPACITOR	1μF 50V
C205	QEKFIHM-474	E CAPACITOR	0.47μF 50V
C206	QEKFIHM-105	E CAPACITOR	1μF 50V
C207	QEKFIHM-474	E CAPACITOR	0.47μF 50V
C208	QEKFIHM-474	E CAPACITOR	0.47μF 50V

Δ REF No.	PART No.	PART NAME, DESCRIPTION	
C209	QEKFIHM-105	E CAPACITOR	1μF 50V
C210	QEKFIEM-475	E CAPACITOR	4.7μF 25V
C211	QETFI1CM-226	E CAPACITOR	22μF 16V
C212	QEKFI1CM-106	E CAPACITOR	10μF 16V
C213	QEKFI1CM-106	E CAPACITOR	10μF 16V
C214	QEKFIHM-335	E CAPACITOR	3.3μF 50V
C216	QEE81CJ-335	TANTAL CAPACITOR	3.3μF 16V
C217	QEE81CJ-106	TANTAL CAPACITOR	10μF 16V
C231	QCYA1HK-103	CAPACITOR	0.01μF 50V
C232	QCYA1HK-103	CAPACITOR	0.01μF 50V
C233	QCYA1HK-103	CAPACITOR	0.01μF 50V
C234	QCYA1EK-473	CAPACITOR	0.047μF 25V
C235	QCYA1HK-103	CAPACITOR	0.01μF 50V
C236	QCYA1EK-104	CAPACITOR	0.1μF 25V
C239	QEK61CM-106	E CAPACITOR	10μF 16V

CN201 PEMC0778-110 PIN HEADER

A/C HEAD BOARD ASSEMBLY <12>

PWB1 PB40046-01-02 AUDIO/CONTROL HEAD BOARD

CN1 PU58844-104 CONNECTOR
CN2 PU58844-103 CONNECTOR

TIMER BOARD ASSEMBLY <20>

PWBA PB10618A-01 TIM/DISP PWB AS
PWBA PB10618A2-01 TIMER BOARD ASSY

IC101 HD404720A08S IC

IC102 CAT93C46P IC
or ST93C46AB1 IC
or 93C46/P IC

Q101 2SC3311A(RS) TRANSISTOR
or 2SC536SPA(FG) TRANSISTOR
or 2SC1740S(RS) TRANSISTOR
Q102 2SC3311A(RS) TRANSISTOR
or 2SC536SPA(FG) TRANSISTOR
or 2SC1740S(RS) TRANSISTOR
Q103 DTC124ES TRANSISTOR
Q104 DTC124ES TRANSISTOR
Q105 DTA124ES TRANSISTOR

D102 11ES2 DIODE
D103 LTZ-MR15 DIODE

# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
D105	RD9.1ES-T1B2	ZENER DIODE	
D106	11ES2	DIODE	
D107	1SS132	DIODE	
D108	1SS132	DIODE	
D110	1SS132	DIODE	
R101	QRD161J-333	RESISTOR	33KΩ 1/6W
R102	QRD161J-123	RESISTOR	12KΩ 1/6W
R103	QRD161J-104	RESISTOR	100KΩ 1/6W
R104	QRD161J-682	RESISTOR	6.8KΩ 1/6W
R105	QRD161J-103	RESISTOR	10KΩ 1/6W
R106	QRD161J-103	RESISTOR	10KΩ 1/6W
R107	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R108	QRD161J-224	RESISTOR	220KΩ 1/6W
R109	QRD161J-333	RESISTOR	33KΩ 1/6W
R110	QRD161J-333	RESISTOR	33KΩ 1/6W
R111	QRD161J-333	RESISTOR	33KΩ 1/6W
R112	QRD161J-333	RESISTOR	33KΩ 1/6W
R113	QRD161J-471	RESISTOR	470Ω 1/6W
R114	QRD161J-102	RESISTOR	1KΩ 1/6W
R115	QRD161J-102	RESISTOR	1KΩ 1/6W
R117	QRD161J-105	RESISTOR	1.0MΩ 1/6W
R118	QRD161J-102	RESISTOR	1KΩ 1/6W
R119	QRD161J-102	RESISTOR	1KΩ 1/6W
R120	QRD161J-102	RESISTOR	1KΩ 1/6W
R121	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R122	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R123	QRD161J-104	RESISTOR	100KΩ 1/6W
R124	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R125	QRD161J-103	RESISTOR	10KΩ 1/6W
R126	QRD161J-103	RESISTOR	10KΩ 1/6W
R127	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R128	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R129	QRD161J-102	RESISTOR	1KΩ 1/6W
R130	QRD161J-104	RESISTOR	100KΩ 1/6W
R131	QRD161J-272	RESISTOR	2.7KΩ 1/6W
R132	QRD161J-103	RESISTOR	10KΩ 1/6W
R133	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R134	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R135	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R136	QRD161J-472	RESISTOR	4.7KΩ 1/6W
R137	QRD161J-103	RESISTOR	10KΩ 1/6W
R138	QRD161J-103	RESISTOR	10KΩ 1/6W
R139	QRD161J-271	RESISTOR	270Ω 1/6W
R140	QRD161J-103	RESISTOR	10KΩ 1/6W

RA101 QRB047J-332 NETWORK RESISTOR
or QRB049J-332 RESISTOR ARRAY

C101 QEK60JM-107 E CAPACITOR 100μF 6.3V
C102 QEK60JM-226 E CAPACITOR 22μF 6.3V
C103 QEA40HZ-104 E CAPACITOR(DOUBLE) 0.1μF 5.5V
C105 QCBBIHJ-102 CAPACITOR 0.001μF 50V
C106 QCC11CJ-473 CAPACITOR 0.047μF 16V
C107 QCC11CJ-473 CAPACITOR 0.047μF 16V
C108 QEK60JM-107 E CAPACITOR 100μF 6.3V
C109 QCBBIHJ-101 CAPACITOR 100PF 50V
C110 QCBBIHJ-101 CAPACITOR 100PF 50V

# Δ	REF No.	PART No.	PART NAME, DESCRIPTION		# Δ	REF No.	PART No.	PART NAME, DESCRIPTION	
		C111	QCT30CH-100	CAPACITOR			R5	QRD161J-681	RESISTOR
		C112	QAT3123-200	TRIMMER, TIMER CLOCK			R6	QRD161J-102	RESISTOR
		C114	QCBB1HJ-102	CAPACITOR			R7	QRD161J-154	RESISTOR
		C115	QCBB1HJ-102	CAPACITOR			R8	QRD161J-102	RESISTOR
		C116	QCBB1HJ-102	CAPACITOR			R9	QRD161J-102	RESISTOR
		C117	QCBB1HJ-102	CAPACITOR			R10	QRD161J-102	RESISTOR
		C121	QCF11HP-473	CAPACITOR			R11	QRD161J-102	RESISTOR
							R12	QRD161J-103	RESISTOR
		L101	PU48530-101J	COIL			R13	QRD161J-750	RESISTOR
							R14	QRD161J-750	RESISTOR
		Δ X101	PU61013	CRYSTAL RESONATOR			R15	QRD161J-750	RESISTOR
							R16	QRD161J-154	RESISTOR
		CN101	PU60417-3	CONNECTOR			RA1	QRB137J-104	RESISTOR ARRAY
		CN102	PU60417-8	CONNECTOR				or QRB139J-104	NETWORK RESISTOR
		CN103	PU60417-6	CONNECTOR			RA2	QRB087J-104	RESISTOR ARRAY
								or QRB089J-104	NETWORK RESISTOR
							RA4	QRB087J-104	RESISTOR ARRAY
								or QRB089J-104	NETWORK RESISTOR

DISPLAY BOARD ASSEMBLY <27>									
		PWBA	PB10618A1-01	DISPLAY BOARD ASS			C1	QEK61HM-106	E CAPACITOR
							C2	QEK61CM-106	E CAPACITOR
							C3	QEK61EM-475	E CAPACITOR
							C4	QEK61CM-226	E CAPACITOR
							C5	QEK61CM-226	E CAPACITOR
							C6	QEK61CM-106	E CAPACITOR
							C7	QCC11EJ-104	CAPACITOR
							C8	QEK61EM-475	E CAPACITOR
		IC1	GP1U541X	IR DETECT UNIT			S2	PU60392-2-2	TACT SWITCH, STOP/EJECT
								or PU60975-2Z	TACT SWITCH, STOP/EJECT
								or PESW0525-02Z	TACT SWITCH, STOP/EJECT
							S3	PU60392-2-2	TACT SWITCH, FF
								or PU60975-2Z	TACT SWITCH, FF
								or PESW0525-02Z	TACT SWITCH, FF
							S4	PU60392-2-2	TACT SWITCH, REV
								or PU60975-2Z	TACT SWITCH, REV
								or PESW0525-02Z	TACT SWITCH, REV
							S5	PU60392-2-2	TACT SWITCH, TV/VIDEO
								or PU60975-2Z	TACT SWITCH, TV/VIDEO
								or PESW0525-02Z	TACT SWITCH, TV/VIDEO
							S6	PU60392-2-2	TACT SWITCH, REC/ ITR
								or PU60975-2Z	TACT SWITCH, REC/ ITR
								or PESW0525-02Z	TACT SWITCH, REC/ ITR
							S7	PU60392-2-2	TACT SWITCH, PLAY
								or PU60975-2Z	TACT SWITCH, PLAY
								or PESW0525-02Z	TACT SWITCH, PLAY
							S8	PU60392-2-2	TACT SWITCH, PAUSE
								or PU60975-2Z	TACT SWITCH, PAUSE
								or PESW0525-02Z	TACT SWITCH, PAUSE
							S24	PU60392-2-2	TACT SWITCH, INSERT
								or PU60975-2Z	TACT SWITCH, INSERT
								or PESW0525-02Z	TACT SWITCH, INSERT
							S27	PU60392-2-2	TACT SWITCH, SP/EP
								or PU60975-2Z	TACT SWITCH, SP/EP
								or PESW0525-02Z	TACT SWITCH, SP/EP
							S29	PU60392-2-2	TACT SWITCH, CH+
								or PU60975-2Z	TACT SWITCH, CH+
								or PESW0525-02Z	TACT SWITCH, CH+
		R1	QRD161J-103	RESISTOR					
		R2	PU61016	V RESISTOR,VR					
		R3	QRD161J-333	RESISTOR					
		R4	QRD161J-331	RESISTOR					

REF No.	PART No.	PART NAME, DESCRIPTION	
S30	PU60392-2-2 or PU60975-2Z or PESW0525-02Z	TACT SWITCH, CH- TACT SWITCH, CH- TACT SWITCH, CH-	
S31	PU60392-2-2 or PU60975-2Z or PESW0525-02Z	TACT SWITCH, PICTURE TACT SWITCH, PICTURE TACT SWITCH, PICTURE	
S32	PU60392-2-2 or PU60975-2Z or PESW0525-02Z	TACT SWITCH, S-VHS TACT SWITCH, S-VHS TACT SWITCH, S-VHS	
S33	PU60392-2-2 or PU60975-2Z or PESW0525-02Z	TACT SWITCH, TIMER TACT SWITCH, TIMER TACT SWITCH, TIMER	
FDP1	PEDP0040	FLUORESCENT DISPLAY PANEL	
HD1	PQ33881	FDP HOLDER(L)	
HD2	PQ33880	FDP HOLDER(R)	
HD3	PQM30038-2-2	LED HOLDER	
HD4	PQ43746	LED SHADE	
JA1	PEMC0851	JACK BOARD	
JA2	PU60664	MINI JACK	
JA3	PU60664-3	MINI JACK	
CN1	PU59555-6	CONNECTOR	
CN2	PU60417-3	CONNECTOR	
CN3	PU60417-5	CONNECTOR	
CN4	PU60417-4	CONNECTOR	
CN5	PU59555-3	CONNECTOR	
CN6	PEMC0724-010	B TO B CONN	
CN7	PU59555-2	CONNECTOR	
CN8	PU59555-2	CONNECTOR	

SWITCH BOARD ASSEMBLY <26>			
PWBA	PB20579A-01	SW BOARD ASSY	
Q201	DTC124ES	TRANSISTOR	
D207	PQM30038-4	LED HOLDER	
D207	SLR-34VC3F	LE DIODE	
R201	QRD161J-271	RESISTOR	270Ω 1/6W
S201	PU60975-2Z or PESW0525-02Z or PU60392-2-2	TACT SWITCH, POWER TACT SWITCH, POWER TACT SWITCH, POWER	
S202	PU60975-Z or PESW0525-Z or PU60392-1-2Z	TACT SWITCH, SET+ TACT SWITCH, SET+ TACT SWITCH, SET+	

# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
S203	PU60975-Z or PESW0525-Z or PU60392-1-2Z	TACT SWITCH, SET- TACT SWITCH, SET- TACT SWITCH, SET-	
S204	PU60975-2Z or PESW0525-02Z or PU60392-2-2	TACT SWITCH, EJECT TACT SWITCH, EJECT TACT SWITCH, EJECT	
S205	PESW0550	TACT SWITCH, RCU	
CN201	PEMC0723-010	B TO B CONN	

UPPER DRUM BOARD ASSEMBLY <41>			
PWB1	PDM3293	BOARD(UPPER DRUM)	

PRE/REC AMP BOARD ASSEMBLY <43>			
PWBA	PB10571B	PRE/REC BOARD ASSY	
IC1	HA118162NT	IC	
IC2	MC14052BCP or TC4052BP	IC IC	
IC201	AN3380NK	IC	
Q3	DTC143EU	TRANSISTOR	
Q4	DTC143EU	TRANSISTOR	
Q5	DTC143EU	TRANSISTOR	
Q6	DTC143EU	TRANSISTOR	
Q7	DTC143EU	TRANSISTOR	
Q8	DTC143EU	TRANSISTOR	
Δ Q10	2SC4081(S)	TRANSISTOR	
Δ Q11	DTC143EU	TRANSISTOR	
Q13	2SC4081(QRS)	TRANSISTOR	
Q14	2SA1576(QR)	TRANSISTOR	
Q15	2SC4081(QRS)	TRANSISTOR	
Q16	DTC143EU	CHIP D TRANSISTOR	
Q17	2SC4081(QRS)	TRANSISTOR	
Q18	2SC4081(QRS)	TRANSISTOR	
Q19	DTC144EU	TRANSISTOR	
Q20	2SC4081(QRS)	TRANSISTOR	
Q21	DTA124EU	TRANSISTOR	
Q22	DTA124EU	TRANSISTOR	
Q23	DTC144EU	TRANSISTOR	
Q24	DTC144EU	TRANSISTOR	
Q25	2SC4081(QRS)	TRANSISTOR	
Q26	2SA1576(QR)	TRANSISTOR	
Q27	2SC4081(QRS)	TRANSISTOR	
Q28	2SA1576(QR)	TRANSISTOR	
Q29	2SC4081(QRS)	TRANSISTOR	
Q30	2SC4081(QRS)	TRANSISTOR	

#	Δ	REF No.	PART No.	PART NAME, DESCRIPTION	
Q31			DTC144EU	TRANSISTOR	
Q32			DTC144EU	TRANSISTOR	
Q33			2SA1576(QR)	TRANSISTOR	
Q34			2SC4081(QRS)	TRANSISTOR	
Q35			2SC4081(QRS)	TRANSISTOR	
Q36			2SC4081(QRS)	TRANSISTOR	
Q37			DTC124EU	TRANSISTOR	
Q38			2SA1576(QR)	TRANSISTOR	
Q39			DTA124EU	TRANSISTOR	
Q41			2SC4081(QRS)	TRANSISTOR	
Q201			DTC124TU	CHIP D TRANSISTOR	
Q202			DTC124TU	CHIP D TRANSISTOR	
Q203			DTC114WU	TRANSISTOR	
Q204			2SC4081(QRS)	TRANSISTOR	
Q205			DTA114EU	TRANSISTOR	
Q206			DTC114WU	TRANSISTOR	
Q208			DTC114WU	TRANSISTOR	
Q209			DTC114WU	TRANSISTOR	
D1			DAP202U	DIODE	
D2			DAP202U	DIODE	
D3			1SS133	DIODE	
			or MA165	DIODE	
D6			DAN202U	DIODE	
D7			DAN202U	DIODE	
D8			DAN202U	DIODE	
D9			DAP202U	DIODE	
D10			DAN202U	DIODE	
D11			DAP202U	DIODE	
D201			1SS133	DIODE	
			or MA165	DIODE	
D202			DAN202U	DIODE	
D203			1SS133	DIODE	
			or MA165	DIODE	
R1			QRSA08J-510YN	RESISTOR	51Ω 1/10W
R2			QRSA08J-301YN	RESISTOR	300Ω 1/10W
R3			QRSA08J-560YN	RESISTOR	56Ω 1/10W
R4			NRVA62D-330N	RESISTOR	33Ω 1/16W
R5			NRVA62D-330N	RESISTOR	33Ω 1/16W
R6			QRSA08J-470YN	RESISTOR	47Ω 1/10W
R7			QRSA08J-301YN	RESISTOR	300Ω 1/10W
R8			QRSA08J-360YN	RESISTOR	36Ω 1/10W
R9			NRVA62D-560N	RESISTOR	56Ω 1/16W
R10			NRVA62D-201N	RESISTOR	200Ω 1/16W
R11			NRVA62D-470N	RESISTOR	47Ω 1/16W
R12			NRVA62D-560N	RESISTOR	56Ω 1/16W
R13			NRVA62D-201N	RESISTOR	200Ω 1/16W
R14			NRVA62D-470N	RESISTOR	47Ω 1/16W
R15			QRSA08J-122YN	RESISTOR	1.2KΩ 1/10W
R16			QRSA08J-122YN	RESISTOR	1.2KΩ 1/10W
R17			QRSA08J-152YN	RESISTOR	1.5KΩ 1/10W
R19			QRSA08J-122YN	RESISTOR	1.2KΩ 1/10W
R20			QRSA08J-101YN	RESISTOR	100Ω 1/10W

#	Δ	REF No.	PART No.	PART NAME, DESCRIPTION	
R21			QRSA08J-822YN	RESISTOR	8.2KΩ 1/10W
R22			QRSA08J-152YN	RESISTOR	1.5KΩ 1/10W
R23			QRSA08J-472YN	RESISTOR	4.7KΩ 1/10W
R24			QRSA08J-222YN	RESISTOR	2.2KΩ 1/10W
R25			QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R26			QRSA08J-222YN	RESISTOR	2.2KΩ 1/10W
R27			QRSA08J-471YN	RESISTOR	470Ω 1/10W
R28			QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R29			QRSA08J-391YN	RESISTOR	390Ω 1/10W
R30			QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R31			QRSA08J-101YN	RESISTOR	100Ω 1/10W
R32			QRSA08J-161YN	RESISTOR	160Ω 1/10W
R33			QRSA08J-222YN	RESISTOR	2.2KΩ 1/10W
R34			QRSA08J-182YN	RESISTOR	1.8KΩ 1/10W
R37			QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R38			QRSA08J-332YN	RESISTOR	3.3KΩ 1/10W
R39			QRSA08J-393YN	RESISTOR	39KΩ 1/10W
R40			QRSA08J-183YN	RESISTOR	18KΩ 1/10W
R41			QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R42			QRSA08J-563YN	RESISTOR	56KΩ 1/10W
R43			QRSA08J-153YN	RESISTOR	15KΩ 1/10W
R44			QVPA603-472	V RESISTOR, SP REC COL(S-VHS)	
R45			QVPA603-472	V RESISTOR, EP REC COL(S-VHS)	
R46			QRSA08J-331YN	RESISTOR	330Ω 1/10W
R48			QRSA08J-681YN	RESISTOR	680Ω 1/10W
R49			QRSA08J-273YN	RESISTOR	27KΩ 1/10W
R50			QRSA08J-362YN	RESISTOR	3.6KΩ 1/10W
R51			QRSA08J-272YN	RESISTOR	2.7KΩ 1/10W
R52			QRSA08J-471YN	RESISTOR	470Ω 1/10W
R53			QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R54			QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R55			QRSA08J-471YN	RESISTOR	470Ω 1/10W
R56			QVPA603-222	V RESISTOR, SP FREQ(S-VHS)	
R57			QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R58			QVPA603-222	V RESISTOR, EP FREQ(S-VHS)	
R59			QRSA08J-822YN	RESISTOR	8.2KΩ 1/10W
R60			QRSA08J-333YN	RESISTOR	33KΩ 1/10W
R61			QRSA08J-392YN	RESISTOR	3.9KΩ 1/10W
R62			QRSA08J-561YN	RESISTOR	560Ω 1/10W
R63			QRSA08J-152YN	RESISTOR	1.5KΩ 1/10W
R64			QRSA08J-561YN	RESISTOR	560Ω 1/10W
R65			QRSA08J-822YN	RESISTOR	8.2KΩ 1/10W
R66			QRSA08J-561YN	RESISTOR	560Ω 1/10W
R67			QRSA08J-272YN	RESISTOR	2.7KΩ 1/10W
R68			QRSA08J-103YN	RESISTOR	10KΩ 1/10W
R69			QRSA08J-681YN	RESISTOR	680Ω 1/10W
R70			QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R71			QRSA08J-102YN	RESISTOR	1KΩ 1/10W
R72			QRSA08J-681YN	RESISTOR	680Ω 1/10W
R73			QRSA08J-752YN	RESISTOR	7.5KΩ 1/10W
R74			QRSA08J-333YN	RESISTOR	33KΩ 1/10W
R75			QRSA08J-562YN	RESISTOR	5.6KΩ 1/10W
R76			QRSA08J-561YN	RESISTOR	560Ω 1/10W
R77			QRSA08J-821YN	RESISTOR	820Ω 1/10W
R78			QRSA08J-821YN	RESISTOR	820Ω 1/10W
R79			QRSA08J-821YN	RESISTOR	820Ω 1/10W
R80			QRSA08J-273YN	RESISTOR	27KΩ 1/10W

Δ REF No.	PART No.	PART NAME, DESCRIPTION		# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
R81	QRSA08J-103YN	RESISTOR	10KΩ 1/10W	C17	QCFA1EZ-104	CAPACITOR	0.1μF 25V
R82	QRSA08J-331YN	RESISTOR	330Ω 1/10W	C19	QCFA1HZ-103	CAPACITOR	0.01μF 50V
R84	QRSA08J-562YN	RESISTOR	5.6KΩ 1/10W	C20	QEK60JM-476	E CAPACITOR	47μF 6.3V
R85	QRSA08J-392YN	RESISTOR	3.9KΩ 1/10W	C21	QCFA1HZ-103	CAPACITOR	0.01μF 50V
R86	QRSA08J-182YN	RESISTOR	1.8KΩ 1/10W	C22	QEK60JM-476	E CAPACITOR	47μF 6.3V
R87	QRSA08J-393YN	RESISTOR	39KΩ 1/10W	C23	QCSA1HJ-391	CAPACITOR	390PF 50V
R89	QRSA08J-473YN	RESISTOR	47KΩ 1/10W	C24	QCSA1HJ-271	CAPACITOR	270PF 50V
R90	QRSA08J-471YN	RESISTOR	470Ω 1/10W	C25	QCFA1CZ-334	CAPACITOR	0.33μF 16V
R91	QRSA08J-471YN	RESISTOR	470Ω 1/10W	C26	QEK61HM-105	E CAPACITOR	1μF 50V
R92	QRSA08J-272YN	RESISTOR	2.7KΩ 1/10W	C27	QCFA1HZ-103	CAPACITOR	0.01μF 50V
R95	QRSA08J-331YN	RESISTOR	330Ω 1/10W	C28	QEK61HM-105	E CAPACITOR	1μF 50V
R96	QRSA08J-821YN	RESISTOR	820Ω 1/10W	C29	QCFA1HZ-103	CAPACITOR	0.01μF 50V
R97	QRSA08J-391YN	RESISTOR	390Ω 1/10W	C30	QCFA1HZ-103	CAPACITOR	0.01μF 50V
R98	QRSA08J-472YN	RESISTOR	4.7KΩ 1/10W	C31	QCSA1HJ-820	CAPACITOR	82PF 50V
R99	QRSA08J-472YN	RESISTOR	4.7KΩ 1/10W	C32	QCFA1EZ-104	CAPACITOR	0.1μF 25V
R100	QRSA08J-101YN	RESISTOR	100Ω 1/10W	C33	QCVB1CN-103	CAPACITOR	0.01μF 16V
R101	QRSA08J-392YN	RESISTOR	3.9KΩ 1/10W	C34	QEK61CM-476	E CAPACITOR	47μF 16V
R102	QRSA08J-272YN	RESISTOR	2.7KΩ 1/10W	C35	QCFA1HZ-103	CAPACITOR	0.01μF 50V
R103	QRSA08J-103YN	RESISTOR	10KΩ 1/10W	C36	QCFA1HZ-103	CAPACITOR	0.01μF 50V
R104	QRD161J-101	RESISTOR	100Ω 1/6W	C37	QCFA1HZ-103	CAPACITOR	0.01μF 50V
R201	QRSA08J-273YN	RESISTOR	27KΩ 1/10W	C38	QCFA1HZ-103	CAPACITOR	0.01μF 50V
R202	QRSA08J-101YN	RESISTOR	100Ω 1/10W	C39	QCFA1EZ-104	CAPACITOR	0.1μF 25V
R203	QRSA08J-101YN	RESISTOR	100Ω 1/10W	C40	QCSA1HJ-271	CAPACITOR	270PF 50V
R204	QRSA08J-274YN	RESISTOR	270KΩ 1/10W	C41	QCFA1EZ-104	CAPACITOR	0.1μF 25V
R205	QRSA08J-102YN	RESISTOR	1KΩ 1/10W	C42	QCFA1HZ-103	CAPACITOR	0.01μF 50V
R206	QRSA08J-333YN	RESISTOR	33KΩ 1/10W	C43	QCSA1HJ-101	CAPACITOR	100PF 50V
R207	QRSA08J-101YN	RESISTOR	100Ω 1/10W	C44	QCSA1HJ-330	CAPACITOR	33PF 50V
R208	QRSA08J-332YN	RESISTOR	3.3KΩ 1/10W	C45	QCSA1HJ-390	CAPACITOR	39PF 50V
R210	QRSA08J-222YN	RESISTOR	2.2KΩ 1/10W	C46	QCVB1CN-103	CAPACITOR	0.01μF 16V
R211	QRSA08J-153YN	RESISTOR	15KΩ 1/10W	C47	QCSA1HJ-100	CAPACITOR	10PF 50V
R212	QRSA08J-103YN	RESISTOR	10KΩ 1/10W	C48	QCFA1HZ-103	CAPACITOR	0.01μF 50V
R213	QRSA08J-102YN	RESISTOR	1KΩ 1/10W	C49	QCSA1HJ-150	CAPACITOR	15PF 50V
R214	QRSA08J-560YN	RESISTOR	56Ω 1/10W	C50	QCSA1HJ-180	CAPACITOR	18PF 50V
R215	QRSA08J-560YN	RESISTOR	56Ω 1/10W	C51	QCSA1HJ-390	CAPACITOR	39PF 50V
R216	QVZ3521-331Z	V RESISTOR, REC FM(FMA)		C52	QCSA1HJ-120	CAPACITOR	12PF 50V
R217	QRSA08J-153YN	RESISTOR	15KΩ 1/10W	C53	QCSA1HJ-120	CAPACITOR	12PF 50V
R218	QRSA08J-152YN	RESISTOR	1.5KΩ 1/10W	C54	QCSA1HJ-820	CAPACITOR	82PF 50V
R219	QRSA08J-0R0Y	RESISTOR	0.0Ω 1/10W	C55	QCFA1HZ-103	CAPACITOR	0.01μF 50V
R222	QRSA08J-103YN	RESISTOR	10KΩ 1/10W	C56	QEK61CM-476	E CAPACITOR	47μF 16V
R223	QRSA08J-682YN	RESISTOR	6.8KΩ 1/10W	C57	QCSA1HJ-330	CAPACITOR	33PF 50V
R224	QRSA08J-222YN	RESISTOR	2.2KΩ 1/10W	C58	QCFA1HZ-103	CAPACITOR	0.01μF 50V
C1	QCFA1EZ-104	CAPACITOR	0.1μF 25V	C59	QCSA1HJ-560	CAPACITOR	56PF 50V
C3	QCSA1HJ-150	CAPACITOR	15PF 50V	C60	QCSA1HJ-390	CAPACITOR	39PF 50V
C5	QCFA1EZ-104	CAPACITOR	0.1μF 25V	C61	QCSA1HJ-150	CAPACITOR	15PF 50V
C6	QCFA1EZ-104	CAPACITOR	0.1μF 25V	C62	QCSA1HJ-330	CAPACITOR	33PF 50V
C8	QCSA1HJ-150	CAPACITOR	15PF 50V	C63	QCSA1HJ-180	CAPACITOR	18PF 50V
C10	QCFA1EZ-104	CAPACITOR	0.1μF 25V	C64	QCSA1HJ-120	CAPACITOR	12PF 50V
C11	QCFA1EZ-104	CAPACITOR	0.1μF 25V	C65	QCFA1HZ-103	CAPACITOR	0.01μF 50V
C13	QCFA1EZ-104	CAPACITOR	0.1μF 25V	C66	QCFA1HZ-103	CAPACITOR	0.01μF 50V
C14	QCSA1HJ-180	CAPACITOR	18PF 50V	C67	QCFA1HZ-103	CAPACITOR	0.01μF 50V
C15	QCSA1HJ-9R0	CAPACITOR	9PF 50V	C68	QCVB1CN-103	CAPACITOR	0.01μF 16V
C16	QCFA1EZ-104	CAPACITOR	0.1μF 25V	C69	QCSA1HJ-220	CAPACITOR	22PF 50V
				C70	QCSA1HJ-470	CAPACITOR	47PF 50V
				C73	QCSA1HJ-151	CAPACITOR	150PF 50V
				C76	QCFA1HZ-103	CAPACITOR	0.01μF 50V
				C77	QCSA1HJ-470	CAPACITOR	47PF 50V
				C80	QCC11CJ-223	CAPACITOR	0.022μF 16V

# Δ REF No.	PART No.	PART NAME, DESCRIPTION		# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
C201	QCFA1EZ-104	CAPACITOR	0.1μF 25V	CN5	PU60417-104	CONNECTOR	
C202	QCSA1HJ-391	CAPACITOR	390PF 50V	CN6	PU59555-103	CONNECTOR	
C203	QCSA1HJ-561	CAPACITOR	560PF 50V	CN7	PU59555-103	CONNECTOR	
C204	QCSA1HJ-102	CAPACITOR	0.001μF 50V	CN201	PU59555-102	CONNECTOR	
C205	QCSA1HJ-561	CAPACITOR	560PF 50V	CN202	PU60417-106	CONNECTOR	
C206	QCSA1HJ-102	CAPACITOR	0.001μF 50V	*****			
C207	QCFA1CZ-224	CAPACITOR	0.22μF 16V	FLYING ERASE BOARD ASSEMBLY <46>			
C208	QCSA1HJ-391	CAPACITOR	390PF 50V	Q801	2SA933S	TRANSISTOR	
C209	QEK60JM-107	E CAPACITOR	100μF 6.3V	Q802	2SC1741S(QR)	TRANSISTOR	
C210	QCYA1HK-103	CAPACITOR	0.01μF 50V	Q803	2SA933S(Q)	TRANSISTOR	
C211	QCYA1HK-103	CAPACITOR	0.01μF 50V	Q804	2SD639R	TRANSISTOR	
C214	QCSA1HJ-330	CAPACITOR	33PF 50V	Q805	2SD639R	TRANSISTOR	
C215	QCSA1HJ-102	CAPACITOR	0.001μF 50V	D801	UZ8.2BSC	ZENER DIODE	
C216	QCYA1HK-103	CAPACITOR	0.01μF 50V	D802	1SS133	DIODE	
C217	QCSA1HJ-102	CAPACITOR	0.001μF 50V		or MA165	DIODE	
C218	QCSA1HJ-102	CAPACITOR	0.001μF 50V	R801	QRD161J-473	RESISTOR	47KΩ 1/6W
C219	QCYA1HK-103	CAPACITOR	0.01μF 50V	R802	QRD161J-472	RESISTOR	4.7KΩ 1/6W
C220	QEK61EM-476	E CAPACITOR	47μF 25V	R803	QRD161J-222	RESISTOR	2.2KΩ 1/6W
C221	QCYA1HK-103	CAPACITOR	0.01μF 50V	R804	QRD161J-473	RESISTOR	47KΩ 1/6W
C224	QCFA1CZ-224	CAPACITOR	0.22μF 16V	R805	QRD161J-223	RESISTOR	22KΩ 1/6W
L1	PU59988-221J	COIL	220μH	R806	QRD161J-104	RESISTOR	100KΩ 1/6W
L2	PU59988-101J	COIL	100μH	R807	QRD161J-121	RESISTOR	120Ω 1/6W
L3	PU48530-101K	COIL	100μH	R808	QRD161J-104	RESISTOR	100KΩ 1/6W
L4	PU48530-101K	COIL	100μH	R809	QRD161J-121	RESISTOR	120Ω 1/6W
L5	PU59988-221J	COIL	220μH	R810	QRD161J-101	RESISTOR	100Ω 1/6W
L6	PU48530-220J	COIL	22μH	C801	QCVB1CN-103	CAPACITOR	0.01μF 16V
L7	PU48530-101K	COIL	100μH	C802	QCC11EJ-123	CAPACITOR	0.012μF 25V
L8	PU59988-4R7JY	COIL	4.7μH	C803	QCSB1HJ-560	CAPACITOR	56PF 50V
L9	PU59988-560J	COIL	56μH	C804	QCBB1HJ-820	CAPACITOR	82PF 50V
L10	PU59988-150J	COIL	15μH	C805	QCVB1CN-103	CAPACITOR	0.01μF 16V
L11	PU59988-390J	COIL	39μH	C806	QCBB1HJ-820	CAPACITOR	82PF 50V
L12	PU59988-221J	COIL	220μH	C808	QCT25UJ-181	CAPACITOR	180PF 50V
L13	PU59988-100J	COIL	10μH	C809	QCT25UJ-330	CAPACITOR	33PF 50V
L14	PU59988-270J	COIL	27μH	L801	PU48530-560J	COIL	56μH
L15	PU59988-270J	COIL	27μH	L802	PU48530-3R3K	COIL	3.3μH
L16	PU59988-560J	COIL	56μH	L803	PU48530-3R3K	COIL	3.3μH
L17	PU59988-220JY	COIL	22μH	L804	PU59152-101J	COIL	100μH
L18	PU48530-101K	COIL	100μH	Δ T801	PU56175	S. TRANS	
L19	PU59988-390J	COIL	39μH	CN801	PU59555-3	CONNECTOR	
L20	PU48530-470J	COIL	47μH	CN802	PEMC0713-104	HOUSING	
L201	PELN0530-101JZ	COIL	100μH	*****			
BPF201	PELN0290	BAND PASS FILTER		*****			
SLD1	PQ21271	SHIELD FRAME		*****			
TP	PU60142-2	CONNECTOR		*****			
CN1	PU59974-13	CONNECTOR		*****			
CN2	PU59555-103	CONNECTOR		*****			
CN3	PU59555-105	CONNECTOR		*****			
CN4	PU60417-105	CONNECTOR		*****			

REF No.	PART No.	PART NAME, DESCRIPTION	
DECK TERMINAL BOARD ASSEMBLY <51>			
PWBA	PB10481A	DECK TERMINAL BOARD ASSY	
Q1	PU60625	END SENSOR	
R3	QRD161J-331	RESISTOR	330Ω 1/6W
R4	QRD161J-331	RESISTOR	330Ω 1/6W
R5	QRD161J-331	RESISTOR	330Ω 1/6W
R8	NTH5D473KB	THERMISTOR	
	or ERT-D2ZHK473S	NEGA THERMISTOR	
	or NTH5D473KA	RESISTOR	
C1	QCVB1CM-103	CAPACITOR	0.01μF 16V
PS1	PS5705HR	PH INTERRUPTER	
PS2	PS5705HR	PH INTERRUPTER	
TH601	PESC1041	POSI THERMISTOR	
CN1	PEMC0722-018	WIRE TRAP	
	or PEMC0753-018	WIRE TRAP	
CN2	PU60642	CONNECTOR(7PIN)	
CN3	PU60640	CONNECTOR(4PIN)	

LOADING MDA BOARD ASSEMBLY <55>

PWBA2	PB30150A	LOADING MDA BOARD ASSY	
IC1	BA6418N	IC	
	or XRA6418N	IC	
C1	QETA1CM-227	E CAPACITOR	220μF 16V
C3	QETA1HM-105	E CAPACITOR	1μF 50V
CN1	PU59555-104	CAP HOUSING	
CN2	PU58844-2	CONNECTOR	

CASSETTE HOUSING BOARD <56>

PWB1	PB40061	CASSETTE HOUSING BOARD	
Q2	PN268VI	PHOTO TRANSISTOR	

# Δ REF No.	PART No.	PART NAME, DESCRIPTION	
D1	UZ5.1BSB or RD5.1ESB2	ZENER DIODE	ZENER DIODE
R1	QRD162J-473	RESISTOR	47KΩ 1/6W
R2	QRD182J-681	RESISTOR	680Ω 1/8W
R3	QRD122J-102S	RESISTOR	1KΩ 1/2W
C1	QCC11EJ-103	CAPACITOR	0.01μF 25V
PHS3	PU60629	CASSETTE SENSOR	
TH1	ERT-D2FHJ503S or PESC1084 or ERT-D2FHK503S	THERMISTOR	THERMISTOR
		NEGA THERMISTOR	
CN2	PU60639	4PIN SOCKET	